IN THE CIRCUIT COURT OF THE STATE OF OREGON
FOR THE COUNTY OF MULTNOMAH

The Estate of JESSE D. WILLIAMS, Deceased, by and through MAYOLA WILLIAMS, Personal Representative,	)	Volume 13-B
Plaintiff,	)	
vs.	)	No. 9705-03957
PHILIP MORRIS INCORPORATED,	)	Afternoon Session
Defendant.	)	

TRANSCRIPT OF PROCEEDINGS

BE IT REMEMBERED that the above-entitled Court and cause came on regularly for hearing before the Honorable Anna J. Brown on Wednesday, the 10th day of March, 1999, at the Multnomah County Courthouse, Portland, Oregon.

APPEARANCES

Raymond Thomas, James Coon, William Gaylord and Charles Tauman, Attorneys at Law, Appearing on behalf of the Plaintiff;
James Dumas, Billy Randles, Walt Cofer and Pat Sirridge, Attorneys at Law, Appearing on behalf of the Defendant.

KATIE BRADFORD, CSR 90-0148
Official Court Reporter
226 Multnomah County Courthouse
Portland, Oregon 97204
(503) 248-3549

(Wednesday, March 10, 1999, 1:15 p.m.)

P R O C E E D I N G S

Afternoon Session

(Whereupon, the following proceedings were held in open court, out of the presence of the jury:)

THE COURT: We do have all the jurors. Are we ready?

MR. GAYLORD: Yes, we are, Your Honor.

MR. SIRRIDGE: Yes, ready.

THE COURT: Bring them in, please.

Who is going to be your witness?

MR. GAYLORD: Dr. Segal.

THE COURT: Dr. Segal, we're pouring fresh water for you, so it's a clean cup.

(Whereupon, the following proceedings were held in open court, the jury being present at 1:20 p.m.)

THE COURT: Good afternoon, jurors.

We're ready to continue with the plaintiff's case.

Mr. Gaylord.

MR. GAYLORD: Thank you, Your Honor. The

plaintiff would call Dr. Gerald Segal.

THE COURT: Okay. Step up here to the witness stand and face the clerk, please.

GERALD N. SEGAL

Was thereupon called as a witness on behalf of the Plaintiff and, having been first duly sworn, was examined and testified as follows:

THE CLERK: Please be seated. Doctor, if I can have you scoot as far to your right as you can without rolling off there.

THE WITNESS: Okay.

THE CLERK: And we'll get this adjusted for you.

Please state your name, spell your first name and your last name.

THE WITNESS: My name is Gerald N. Segal, G-e-r-a-l-d. The last name is Segal, S-e-g-a-l.

THE COURT: Thank you.

Mr. Gaylord.

MR. GAYLORD: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. GAYLORD:

Q. Dr. Segal, I have written your name on a piece of paper on the viewer for the jury, and they already know why I'm calling you Doctor, because the M.D., you are a medical doctor?

A. Yes.

Q. Is that true?

And you also have some other initials behind your name. What is "FACP"?

A. Fellow of the American College of Physicians.

Q. I want to go through enough of your qualifications so the jury knows why you can be called a medical doctor, and why you can do the things you've done with respect to Jesse Williams' care and treatment, and express what you have to say here about that.

First, let me ask, have you ever testified in court before?

A. No, I haven't.

Q. All right. We'll try to make it an expeditious experience and get to the subject as quickly as we can then.

You hold a medical degree from where?
A. Northwestern University.
Q. And you received that at about what time in the last years?
A. 1979.
Q. And did you receive that with some honors to go with it?
A. It was awarded with highest distinction.
Q. Now, the jury knows that medical doctors go through additional training after their M.D. degree, so summarize that as far as your qualifications, please?
A. After graduating from medical school, I did a residency, an internship in internal medicine at the University of Washington in Seattle. And then I did a fellowship in hematology, also at the University of Washington in Seattle.
Q. Okay. I think probably we should put a couple more words in front of the jury. You just said hematology. And so they can see what you're saying, I'll write that word here. Is that one of the terms that applies to your specialty in medicine?
A. Yes, hematology is the specialty of

internal medicine dealing with the diagnosis and treatment of blood diseases.
Q. All right. And is there another word that goes hand in hand with that?
A. Yes, medical oncology. My training was also in medical oncology.
Q. And is that -- is there a specialty of medicine that is commonly referred to as hematology/oncology?
A. Yes. Many practitioners are -- have training in both and practice in both fields.
Q. Okay. Now, as a practical matter or in layman's terminology what does hematology and oncology refer to?
A. Well, as I said, hematology deals with the diagnosis and treatment of blood diseases. Oncology deals with the diagnosis and treatment of cancer. It is --
Q. Excuse me, go ahead. I didn't mean to interrupt.
A. Well, the reason that these are historically linked is the first cancers that were really treated with chemotherapy were hematological malignancies.
THE COURT REPORTER: I'm sorry. Please

repeat that.
THE WITNESS: Hematological malignancies, like leukemia and glaucoma. So there has always been a tight connection between the two fields.
Also many of the side effects of the treatments we use for cancer affect primarily the bone marrow and the blood cells.
BY MR. GAYLORD:
Q. So to become a specialist in your field of medicine, a medical doctor goes to further advanced training and studies blood and blood diseases and cancer?
A. Yes.
Q. Okay. And is it a fair shorthand to say you're a cancer doctor?
A. Yes.
Q. In addition to the schooling that you received, internship, residency -- and I don't know if you mentioned fellowship yet -- did you receive a fellowship also?
A. Yes. I did a fellowship in hematology at the University of Washington.
Q. Okay. So all of that post-medical school work you've talked about so far was at the University of Washington --

A. Yes.
Q. -- in Seattle? And then did you continue in an academic setting for some years and work in the education of other physicians in your specialty?
A. Yeah, I joined the division of hematology/medical oncology at Oregon Health Sciences University in about 1986.
Q. And so -- so you came down to Portland from Seattle in the mid-'80s and became a staff member at our medical school?
A. Correct.
Q. And how long did you hold positions at the Oregon Health Sciences University?
A. Well, I was on the full-time faculty for approximately 10 years; first, as an assistant professor, and then an associate professor. I am now a member of the clinical faculty and a clinical associate professor of medicine at OHSU.
Q. So you still have a connection in an academic setting there?
A. Right, teaching medical students.
Q. And that's in addition to a full-time practice of medicine?
A. Yes.

Q. When you say a full-time practice of medicine in your case, do you work at a clinic?
A. Yes.
Q. What clinic?
A. Health First Medical Group. My office is on North Broadway.
Q. And is that the same part of the Health First Group where Dr. Kern works?
A. Yes.
Q. And is that clinic part of the story of how you became involved with Jesse Williams?
A. Yes.
Q. Were you selected to be involved in Jesse Williams' case by lawyers?
A. No.
Q. How -- what was your role or how did you come into a role with Jesse Williams?
A. Well, Mr. Williams was referred to me by his primary care physician, Dr. Kern.
Q. And then did you -- are you the doctor that treated his cancer?
A. Yes.
Q. By the time Jesse Williams came to your care, and let me say that I think from the records that's in October of 1996, is it?

A. Yeah. Yes, that's correct, I believe.
Q. By that time, had he received a diagnosis of cancer?
A. Yes.
Q. And that was a lung cancer?
A. Yes.
Q. Did you, as the doctor who was to treat his cancer, review the records, review the workups that had led to that diagnosis, and acquaint yourself with all that same information?
A. Yes, I did.
Q. And did you do that in part so that you could confirm for your own satisfaction the diagnosis that you were going to treat?
A. Yes.
Q. And did you do that?
A. Yes.
Q. Now, just -- as we get going, I'll probably have some questions that will be asking for your opinion. Obviously, I am not asking your opinion just as a man on the street or as a layperson outside of your medical specialty; I am only asking for your opinion within your special knowledge as a cancer doctor, okay?
A. Yes.

Q. And every opinion that I ask you for needs to be limited to opinions that you're able to state based on a reasonable medical probability.
A. Yeah, I understand.
Q. All right. If you don't have that degree of assurance about a thing, don't give me your opinion or tell me that you really can't express an opinion. Will you do that?
A. Yes.
Q. Okay. What kind of cancer did Jesse Williams have?
A. He had a -- what we call a non-small cell lung cancer.
Q. Now, left over on the easel there from when Dr. Kern was here yesterday are some words that I wrote up there. And I'm going to ask you to look at the second one on the list there, adenosquamous.
A. Yeah. That was the specific type of cancer that he had.
Q. Okay. Did you form an opinion as the treating physician, as the physician who reviewed the workups and diagnostic steps that had been taken by others, and as a physician who moved

forward and treated Jesse Williams' cancer, did you form an opinion whether his cancer was caused by cigarette smoking?
A. Yes, I did.
Q. What is your opinion?
A. That it most likely was caused by cigarette smoking.
Q. Now, we've given it a name, adenosquamous carcinoma. Is that a kind of lung cancer that is known to occur as a result of cigarette smoking?
A. Yes.
Q. You acquainted yourself with the clinical presentation of Jesse Williams' cancer?
A. Yes.
Q. Everything that had been noticed over the preceding time period that could be related now to his cancer after it was diagnosed?
A. Yes.
Q. Did you acquaint yourself with the work of other physicians who had taken the steps that led to the diagnosis?
A. Yes, I did.
Q. And did you ever discover anything in the way of medical information about Jesse Williams' cancer that was inconsistent with it having been

caused by his cigarette smoking?
A. No.
Q. In the course of things as a cancer doctor when you receive a patient like Jesse Williams, was it part of your work to learn the relevant history of Jesse Williams' case?
A. Yes, it was.
Q. And how do you do that, as a physician?
A. You take a detailed history from the patient and then review the available medical records.
Q. Based on the available medical records and the detailed history and, for that matter, anything you ever learned about Jesse Williams, did you ever discover any other long-term chronic or repeated exposure to anything else besides cigarette smoking that, in your opinion, could explain his cancer?
A. No.
Q. Just because I've got the words up there and I don't want to forget what I want to do, you also see on the easel that I wrote with Dr. Kern here yesterday, I wrote the words, "Poorly differentiated." And is that a term of art that matters in your field?

A. Yes. When we talk about the differentiation of a -- of a cancer, it relates to how closely it resembles its normal cellular counterpart. For example, breast cancer cell, if a breast cancer cell closely resembles a normal breast cell then we say it's a well differentiated cancer.

In contrast, poorly differentiated cancers are those in which the cells are very wild in appearance and are quite different in their appearance and behavior from the normal counterparts.

Q. Now, I am going to -- I'm going to dwell just another minute on that because every time I've heard this described, I think as a layman, it seems like it's just backwards.

Differentiation is telling us something about how well the pathologist can identify the original cell that this came from?

A. Yeah. Differentiation is a -- is a biological term referring to cells as they mature, from a rather immature-appearing cell to mature cell types.

Q. Okay.

A. And when we say something is poorly

differentiated, that means it's very immature in appearance and quite a bit different in appearance than the mature cells.
Q. Okay. When we give a cancer the name adenosquamous carcinoma, is that telling us something about the kinds of cell or cells that went bad to make this cancer?
A. That is a -- that's a complicated question. It really is a descriptive term meaning that this particular tumor was composed of two cell populations.
One cell population we refer to do as adenocarcinoma. That's a cancer that has a -- has a glandular appearance under the microscope. Squamous refers to appearance of the cells being sort of flat and platelike. And all this is is a descriptive term meaning that this tumor is composed of both types of cancer cells.
I think there's still a fair amount of controversy and uncertainty as to what the specific cell is that it ultimately develops into a cancer.
Q. Okay. With respect to this phrase "poorly differentiated," is that -- is that a term that is used to describe something about the

appearance, what it looks like to the human eye under the microscope?
A. That's correct.
Q. And maybe the thing I just need to get clear for myself and leave it then is, poorly differentiated is saying it is especially wild looking, unusual, abnormal?
A. Right. And the reason that that information is important is that in general poorly differentiated carcinomas and poorly differentiated cancers tend to behave more aggressively than well differentiated cancers.
Q. Would that be a fair way to describe the cancer that Jesse Williams had in his lung from cigarette smoking, aggressive?
A. Yes.
Q. You've practiced medicine or have been involved in medicine how long since you started medical school?
A. About 24 years.
Q. In all that time have you been aware of an established relationship considered medically proven between cigarette smoking and lung cancer?
A. Yes.
Q. Including this kind of lung cancer?

A. Yes.
Q. Throughout that time, has there been any legitimate medical or scientific controversy about whether or not cigarette smoking causes lung cancer?
A. No.
Q. Now, I started to ask you about history, what you do in your practice to learn the background of the patient. And that's an important part of the job that you have to do, isn't it?
A. Yes.
Q. In Jesse Williams' case, there's been some suggestions about him having other family members or relatives of his who have had cancer, various different kinds of cancer?
A. Yes.
Q. And you became aware of some of those facts, as well?
A. Yes.
Q. First, about that, does that observation make any difference whatsoever logically to the question of whether this cancer that Jesse Williams suffered was due to cigarette smoking?
A. No.

Q. And does the fact that some of his relatives had various cancers in any respect dissuade you from the conclusion you've shared with us so far?
A. Not for lung cancer, no.
Q. I want to refer you to your records about Jesse Williams' care and just ask you a few questions that I have seen there, and make sure I am not misreading the records.
For the jury, I think I can represent the pages involved in our Exhibit 164 are Page 270 through Page 286. You won't see those numbers on your set, Doctor. You have the original chart there with you?
A. Yes, I do.
Q. You're welcome, of course, to refer to your charts for any answers that you need or anything that would help you be more clear about an answer. What was the date when you first met Jesse Williams?
A. October 16th, 1996.
Q. And there's a handwritten note of a couple of pages for that visit, is there not?
A. Yes.
Q. And then there is a two-plus page typed

up record that is called, "Outpatient Oncology Consultation?
A. Yes.
Q. And I mentioned that just because that's the one that's clearest and easiest to read for us laypeople.
Now, referring to whatever part of the chart would help you, Doctor. Did you make any observations about Jesse Williams' apparent health, aside from his lung cancer when you met him?
A. Well, when I met Mr. Williams, he -- he looked actually remarkably well, and I commented that he appeared younger than his stated age of 67.
Q. Is that an observation that you make note of because it helps you capsulize whether or not a person seems to have any other problems besides the main one?
A. Yes. And it's helpful in determining how a patient would be likely to tolerate treatments, which can be quite aggressive and difficult.
Q. As part of your history did you also record some quantity of smoking history?
A. Yes, I did.

Q. What did you find about that?
A. That the patient had smoked two packs of cigarettes per day for the past 45 years, for the 45 years before the visit.
Q. Okay. Just while we're on that subject of his smoking habit, project forward over the next basically five months and a day that he lived. Do you know whether Jesse Williams ever was able to quit smoking?
A. I don't believe that he was able to quit.
Q. Turning to another issue, did you make an observation or a record of a history of weight loss?
A. Yes, I did.
Q. What did you understand to be the case about weight loss?
A. He stated that he had lost approximately 27 pounds in weight over the preceding six months.
Q. Is weight loss in this context a significant clinical sign of the cancer?
A. Yes, it is.
Q. Do you have -- would you characterize weight loss in the context of what was the first sign or symptom of this cancer? I guess I'm asking you to look through the retrospective

scope. At the point where the cancer was diagnosed, would you characterize what appears to have been the earliest sign of the onset of his cancer?
A. Well, yeah, a couple of things. He had coughed up blood on several occasions and he had also lost weight. Generally, when we see weight loss in cancer patients, it indicates that the cancer is fairly advanced.
Q. When you mentioned that he had coughed up blood, did you learn as part of the history taking that he had a fairly long history of recurring bronchitis or that kind of a condition?
A. Yes, I did.
Q. And were you aware that on some occasions, even in the distant past, he had had blood when he coughed up?
A. Yes.
Q. And that was -- well, let me ask you, was that a particularly unusual thing to occur with chronic smoking patients?
A. No, it's fairly common. Patients with bronchitis due to smoking do cough up blood on occasion.
Q. Now, I want to turn for a moment to the

kind of a short list of other physicians who were involved in case, and whose workups of Jesse Williams contributed to what you knew and what you know now about the diagnosis and the nature of his cancer.

Did you became aware when you first got involved in the case that Jesse Williams had been worked up and diagnosed by a pulmonologist?

A. Yes.

Q. That's a specialist in chest medicine?

A. Correct.

Q. And in this case, that was Dr. Turner?

A. Yes.

Q. And is he someone you know in the community and considered a respected specialist in his field?

A. Yes, he is.

Q. Had he made the diagnosis of lung cancer in this case?

A. He had obtained the biopsy and the pathologist confirmed the diagnosis.

Q. Were you aware also that there had been pathologists, one or more pathologists, involved who had written reports that contributed to the diagnosis of Jesse Williams' case?

A. Yes.
Q. Did that include Dr. Daisy Franzini and Dr. Kevin Oyama (ph), both at Good Samaritan?
A. Yes.
Q. And are they both respected and knowledgeable pathologists for purposes of the pathological diagnosis of lung cancer?
A. Yes.
Q. Were there -- I'm not going to try to identify all the names because there's enough X-ray films, but were there also, to your knowledge, a variety of radiologists, persons whose specialty is to read and interpret X-ray films, chest X-rays in particular?
A. Yes.
Q. And did those persons contribute to some of the knowledge and some of the reasons for diagnosis in Jesse Williams' case?
A. Yes.
Q. And that was -- that included a series of chest X-rays that had been seen as normal in the early part of 1996, January and February; other ones earlier than that also read as essentially normal, and then more recent ones in September and October of '96, that contributed to the diagnosis?

A. Yes.
Q. Again, were you also aware of the internal medicine workup by Dr. Kern --
A. Yes, I was.
Q. -- who we met, and his contribution to the diagnosis --
A. Yes.
Q. -- of Jesse Williams?
Did any physician, those I've identified or any others, to your knowledge, every suggest a different diagnosis for Jesse Williams other than lung cancer due to cigarette smoking?
A. No.
Q. Did any physician ever dispute that conclusion, to your knowledge?
A. No.
Q. Now, did you, as the cancer doctor that was asked to see Jesse Williams, undertake a plan for treatment?
A. Yes.
Q. Did you give Jesse Williams some analysis of what you thought his prospects were and what should be done to improve them?
A. Yes. I made -- I made it clear to Mr. Williams that this was a bad type of cancer,

that it was fairly advanced, what we call a Stage 3-B disease.

And we talked about the various types of treatments available for this cancer. Historically, radiation therapy has been the mainstay of treatment for lung cancer that can't be removed surgically, but the results are very unsatisfactory.

And generally no more than five to ten percent of patients are long-term survivors with radiation therapy alone. There's evidence, though, that the addition of chemotherapy to radiation does improve the outlook somewhat, although the great majority of patients do eventually die of their disease.

Q. Did you make a recommendation to Jesse Williams that he undergo chemotherapy and/or radiation therapy?

A. Yes. I recommended that he receive several cycles of chemotherapy followed by radiation therapy.

Q. Now, Ms. Mayola Williams has told us that she recalls some information about possibly a couple of years of survival with that kind of treatment regimen as part of the recommendation?

A. That's a possibility, but not a likely possibility.
Q. Okay. In this case, with respect to Jesse Williams, first, Doctor, did he undergo the treatment that you recommended?
A. Yes, he did.
Q. Did it turn out that his cancer was of a degree of aggressiveness or advancement that it only responded temporarily to treatment?
A. Unfortunately, that's true.
Q. Did he get a little bit of response for a short period of time?
A. Yes. The series of X-rays showed shrinkage of the tumor after the first two cycles of chemotherapy, and then there was additional shrinkage after radiation therapy.
Q. Was there ever any long-term remission for Jesse Williams?
A. No.
Q. Now, I'd like to ask you, since Jesse Williams' death, to consider a question peculiar to Oregon law that I need your answer for in this case, whether or not the last eight years of his cigarette smoking before the diagnosis of cancer, so if you would like at the window of time from

September of 1988 to September or October of 1996.
And I ask you whether you can answer the question to a reasonable medical probability, did that period of cigarette smoking contribute as a substantial cause of his lung cancer and his death?
A. Yes, you asked me that question.
Q. And to be clear, I don't need to ask you whether anything else contributed to his death, whether cigarettes he had smoked before that or anything else was also a factor, but I do need your opinion to a reasonable medical probability whether those cigarettes that Jesse Williams smoked from September 1, 1988, forward until his diagnosis, were a substantial contributing cause in his development of lung cancer and his premature death?
A. In my opinion, the answer is yes.
Q. You used a word a moment ago, and I want to ask to make sure I am not misusing it or misunderstanding it. What does "remission" mean?
A. Oh, remission means a disappearance of the cancer. Well, actually, it means shrinkage of the cancer, and the remission would be a partial or complete. A partial remission is a partial

shrinkage of the cancer. A complete remission is disappearance of the cancer completely.
Q. Jesse Williams got a little bit of something that might be considered remission in that --
A. A partial remission.
Q. -- shrinkage occurred.
Now, I think just one more subject. I want to -- do you have the death certificate there, a copy of it?
A. I have a copy, yes.
Q. I am going to put part of that in front of the jury and ask a couple of questions.
Let me get it adjusted. This is a standard Oregon Department of Health, Health Division form for death certificate. I think it's a -- I think it's standardized.
And I'm going to ask you, Doctor, to focus your attention on the part of this form that answers the question: What is the cause of death. And it looks like it's Box No. 36, if I'm reading that correctly. Actually, I see in the margin, it even says, "Cause of death." Okay?
And this is a form and these are entries that you are familiar with from your patient's

case?
A. Yes.
Q. Can you read the handwriting that gives us -- it looks like three different lines?
A. Yes, I can.
Q. Tell the jury what the first line says in the handwritten part, please.
A. Cardiopulmonary arrest.
Q. Okay. Is there a layman's term for what that's really means?
A. It means the heart and the lung functions have ceased, incompatible with survival.
Q. Okay. And then the form just below that line says "Due to or as a consequence of"?
A. Hemoptysis.
Q. Okay. So hemoptysis is the second handwritten line. And the jury has heard that before, but in this case, what does hemoptysis mean?
A. Coughing up blood.
Q. And then the last line, again, it says "Due to or as a consequence of"?
A. Yeah. Stage 3-B, being non-small cell lung cancer.
Q. Okay. You used the phrase "Stage 3-B,"

so that's the same thing that you would say about his cancer?
A. Yes.
Q. And the phrase "non-small cell" is another way of saying in this case it is adenosquamous?
A. Well, adenosquamous is a type of non-small cell.
Q. Okay. And to be clear when it says "Immediate cause due to," and then again, "due to," as you understand the use of this form, is that telling us that each thing is the result of the next thing down?
A. Yes.
Q. Do you agree with that in Jesse Williams' case?
A. I do.
Q. Tell the jury, if you can, what -- first off, I'm not going to go through it all in detail, but assume that the jury has heard a description of the events surrounding his death in the middle of the night or the early morning of March 17th, 1997, and that those events include that he woke up, that he was coughing up blood and bleeding from the mouth and nose, and that within a matter

of not too many minutes after that he passed away.
A. All right.
Q. You have those facts from how it was reported to you afterwards as well?
A. Yes.
Q. Is there a way to explain to the jury in a few words the mechanism that relates these items on the death certificate to that outcome; in other words, how would his particular lung cancer cause him to have that bleeding and coughing up blood; and, therefore, cardiopulmonary arrest?
A. Most likely the cancer had eroded a large blood vessel, eroded into the wall of a large blood vessel, resulting in extensive bleeding into the lungs, resulting, in effect, in suffocation.
Q. But in any event, you would -- you would still stack this up as a clear smoking-caused lung cancer and lung cancer caused death?
A. Yes.
MR. GAYLORD: Thank you, Dr. Segal. That's all I have.
THE COURT: Cross-examination.
MR. SIRRIDGE: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. SIRRIDGE:

Q. Good afternoon, Dr. Segal.

A. Good afternoon.

Q. My name is Pat Sirridge. We met out in the hallway before we started this afternoon. The first thing I would like to do is to congratulate you for staying out of court for 24 years.

Doctor, when you started treating Jesse Williams in October of 1996, the diagnosis of lung cancer had already been made, correct?

A. Correct.

Q. And the diagnosis of lung cancer is usually established by a pathologist working with thoracic surgeons and pulmonologist, and people of that profession?

A. That's right.

Q. You don't really specialize in lung cancer in your practice, do you?

A. No, but it certainly is probably the major malignancy that I see, along with breast cancer.

Q. And you see a full range of cancer and diseases?

A. Yes.
Q. Have you ever published any articles in lung cancer diagnosis?
A. No, I haven't.
Q. And I assume you haven't done any research in the field either, scientific research?
A. No, my laboratory research was not in lung cancer.
Q. Now, when you treat lung cancer patients, Dr. Segal, it's not necessary for you to know the cause of the cancer; is that correct?
A. In most cases, that's correct.
Q. In fact, the treatment would be the same in most cases regardless of the cause?
A. Yes.
Q. Doctor, you gave some opinions on your direct examination about the causation of this case, and I'm going to ask you about to make some assumptions as I'm asking you some questions, and stop me if you're not following me, what I ask you.
A. Okay.
Q. I assume that your opinion on causation was based on your experience as a doctor, as well as your reading in the field in areas like

epidemiology and statistics, and that sort of thing?

A. Yes.

Q. And you're also aware that epidemiology of cigarette smoking and lung cancer shows that when smokers give up smoking, their risk for lung cancer declines over time?

A. That's correct.

Q. I'm going to ask you, Doctor, to assume that Jesse Williams started smoking in 1950, okay?

A. All right.

Q. You, I believe, said somewhere that he had a 45-year smoking history.

A. Correct.

Q. So that's about right. So I would like you to assume that he started in 1950. If Mr. Williams would have quit smoking -- he would have quit smoking in 1964, when the Surgeon General's Report came out linking cigarette smoking with lung cancer for 14 years, if he had quit smoking in 1964, in your opinion, would he still have developed lung cancer?

A. Probably not.

Q. In 1966, Doctor, a warning went on the cigarette packages which said, "The Surgeon

General has determined that smoking may be hazardous to health."

If Jesse Williams would have quit spoking in '66, that's 16 years after he started smoking, in your opinion would he have developed lung cancer?

A. It would have been much less likely.

Q. In 1970, Doctor, a new warning went on the packages which said, "The Surgeon General has determined that cigarette smoking is dangerous to your health." Would you assume that -- well, it happened.

If Jesse Williams would have seen that warning, heeded it, and quit smoking in 1970, after 20 years of smoking, in your opinion, would he have still developed lung cancer?

A. His risk would have been substantially less, but he still would have been at significant risk of developing cancer compared to nonsmokers, never smokers.

Q. Right.

A. Right.

Q. But you know, when you say "substantial risk," can you form an opinion as to whether it would have been likely that he would have

developed lung cancer?

A. Compared -- compared to his likelihood of developing lung cancer under the true life circumstances, yes, it would have been substantially less.

Q. Now, in 1985, there were warnings that were added to the cigarette packages which are rotating warnings which are still on that. And one of those warnings indicates from the Surgeon General that, "Cigarette smoking causes cancer," in 1985.

If Jesse Williams would have quit smoking in 1985, after 35 years of smoking, in your opinion, would he have developed lung cancer?

A. He may or may not have, but the risk would have been less.

Q. The risk would have been less compared to what?

A. That -- that -- what he did, continuing to smoke until the time of diagnosis of his cancer.

Q. Right. So let me ask you whether 35 years of smoking, in your opinion, your medical opinion, whether a person who smokes 35 years and two packs a day, is that person likely to develop

lung cancer?
A. He is at substantially higher risk than the -- than nonsmokers, but statistically, no. It would be more likely than not that he wouldn't. I mean, not every heavy smoker develops lung cancer.
Q. In fact, only 10 percent of cigarette smokers develop lung cancer?
A. Across the board, that's about right.
Q. Well, if Jesse Williams would have quit smoking in 1988, after 30 years of smoking, in your opinion, would he have developed lung cancer?
A. It's really -- that's, I think, an unfair question. His risk would have been substantially less, but I don't know if he would or not. His risk clearly would have been higher than nonsmokers.
Q. So it is your opinion that if Jesse Williams would have quit smoking in 1988, 1985, 1970, you can't say whether he would have gotten lung cancer?
A. No, not -- not with 100 percent assurance.
Q. I'm not asking for 100 percent. I am asking for your opinion within a reasonable degree of medical probability as to whether he would have

developed lung cancer had he smoked up to 38 years. Is it more likely than not that he would have developed lung cancer?
A. And had quit after 38 years?
Q. Quit after 38 years.
A. And 38 years is 1988?
Q. Correct.
A. Compared to the fact that he did, in fact, develop lung cancer, and -- which was diagnosed in 1996, the likelihood that he would have had that cancer diagnosed -- the likelihood that that cancer would have developed and had been diagnosed in 1996, if he had quit smoking in 1988 would have been, perhaps, 50 to 60 percent less.
Q. Less than?
A. Than the 100 percent that he did, so I would say, yeah, about 40 to 45 percent chance. And that's based on -- on data on the effects of cessation of cigarette smoking and on the risk of developing lung cancer in former smokers.
Q. Now, there has been testimony in this case, Doctor, but the latency of lung cancer?
A. Yes.
Q. Your familiar with that term?
A. Yes.

Q. And it's generally recognized that the latency period for lung cancer related to cigarette smoking is 20 to 25 years?
A. 20 to 24 years, yes.
Q. Is that correct?
A. Yes.
Q. Doctor, lung cancer is not a single disease, is it?
A. No, it's not.
Q. There are probably 15 or 16 different sub-types of --
A. Sub-types --
Q. -- lung cancer?
A. Yeah, some of which are quite rare.
Q. And those sub-types of lung cancer are categorized by the World Health Organization, aren't they?
A. Yes.
Q. And what are those types and sub-types of lung cancer, Doctor?
A. Okay. Well, there is small cell lung cancer, and then there are the various types of non-small cell lung cancer.
Q. Okay. And what are those?
A. Well, the most common is adenocarcinoma.

Q. Uh-huh.
A. Squamous cell carcinoma.
Q. What else?
A. Large cell carcinoma.
Q. Uh-huh.
A. And then there are a variety of much less common types.
Q. Including?
A. Like adenosquamous carcinoma.
Q. Uh-huh.
A. Carcinoid tumors.
Q. Uh-huh. Which can be quite malignant when they're in the atypical form; isn't that correct?
A. Uh-huh.
Q. And any others?
A. Well, there are a variety of others, the mesothelioma, which is usually a tumor of the pleura.
Q. Isn't it really epithelial?
A. No, no.
Q. What about bronchial gland carcinomas?
A. Bronchoalveolar carcinoma is.
Q. But bronchoalveolar, which is also called BAC?

A. Right.
Q. Bronchoalveolar, that is a sub-type of --
A. Sub-type of --
Q. -- adenocarcinoma?
A. -- adenocarcinoma, yes.
Q. Bronchial gland carcinomas are a specific type of carcinoma, true?
A. Yes.
Q. Now, generally, in clinical parlance, lung cancer is broken down into small cell carcinoma and non-small cell carcinoma?
A. Correct.
Q. Right. For treatment purposes, that's an important distinction, isn't it?
A. Yes.
Q. And there are differences in the relationship between smoking and these different cell types of lung cancer; isn't that true?
A. Yes.
Q. Smoking is highly associated with small cell and squamous cell?
A. Correct.
Q. True?
A. Correct.
Q. Much less associated with adenocarcinoma?

A. Well, that's a -- that's a relative term. I mean, clearly, smoking is the major risk factor for all the non-small cell lung cancers.

Q. But there are sub-types of adenocarcinoma which are much less related to smoking?

A. That's right. There are like scar carcinomas, for example.

Q. Absolutely.

A. Right.

Q. And carcinoid tumors are not related?

A. Correct.

Q. Isn't that correct?

A. Correct.

Q. Bronchial gland carcinomas are not related to smoking; isn't that true?

A. That's true.

Q. And there is some difference of opinion as to large cell carcinoma in the sense of whether it is really small cell adeno -- excuse me -- small adenocarcinomas and squamous carcinoma in a more undifferentiated form?

A. That's right.

Q. And there are some studies which have shown that adenocarcinoma is related to occupation; isn't that true?

A. That's right.
Q. And isn't it also true that adenocarcinoma does not show the same dose response relationship to smoking as do small cell carcinoma and squamous cell carcinoma?
A. I am not -- I'm really not familiar with that distinction.
Q. But do you have any reason to dispute that statement?
A. Well, I'd like to see the data.
Q. You're familiar with a textbook by Devita called, "Cancer"?
A. Yes.
Q. In fact, that's a major textbook, really, in the field of oncology, isn't it?
A. I have a copy, yes.
Q. I'm sure you do.
THE COURT REPORTER: Can you spell the author's name for me?
MR. SIRRIDGE: Devita, D-e-v-i-t-a.
THE COURT REPORTER: Thank you.
BY MR. SIRRIDGE:
Q. Doctor, I am going to read you this statement from Devita.
(As read) "It appears that squamous cell

carcinoma and small cell carcinoma have a distinct dose response" --
MR. GAYLORD: Excuse me. I am not sure there is an adequate foundation yet.
MR. SIRRIDGE: Fine, fine.
BY MR. SIRRIDGE:
Q. Doctor, would you consider this an authoritative treatise dealing with oncology?
A. Yes.
THE COURT REPORTER: Please slow down in your reading.
MR. SIRRIDGE: All right. I'll start again.
BY MR. SIRRIDGE:
Q. (As read) It appears that squamous cell carcinoma and small cell carcinoma have a distinct dose response relation with increasing tobacco exposure producing increasing numbers of this -- these histologic types.
"Worldwide, however, adenocarcinoma appears to be increasing, especially in women, despite the fact that it does not have this significant dose response relation with smoking."
Do you agree with that?
A. Well, I agree that it is increasing, and

that -- yes, it's increasing in women; but, you know, again, I would want to look at the -- you know, it's been a while since I read that.

Q. I believe you have testified that Mr. Williams was diagnosed with a poorly differentiated carcinoma that was typed as adenosquamous?

A. Yes.

Q. And as he said, "It is also a type of non-small cell type of carcinoma," correct?

A. Yes.

Q. Doctor, as an oncologist who treats lung cancer, it is very important to learn from the pathologist whether the cancer is a non-small cell versus a small cell; is that true?

A. Yes, that's very important.

Q. It makes a difference in the treatment protocols that you decide to use, correct?

A. Uh-huh.

Q. It's also important to know the clinical stage as well?

A. Yes.

Q. And your treatment is really based on a combination of the cell type and the clinical stage?

A. Correct.
Q. You would not treat a -- one type of non-small cell carcinoma versus another one because of the different causes of the cancers, would you?
A. No.
Q. And the chemotherapy -- chemotherapeutic agents that would you would choose also would not be related to what caused the cancers, true?
A. That's correct.
Q. Doctor, would you agree that autopsies are useful in verify whether clinical diagnoses are correct?
A. Yes.
Q. In fact, Doctor, isn't it true that autopsies have shown for years that a fair number of canister cases are either undiagnosed or misdiagnosed; isn't that true?
A. Yes.
Q. Have you ever been involved in a case, Doctor, where an autopsy showed that the clinical diagnosis while the person was alive was inaccurate in some way?
A. I've heard of such cases.
Q. And a diagnosis can been inaccurate

because the wrong primary site is identified?
A. Yes.
Q. True?
It could also be incorrect because the wrong histopathologic diagnosis was made, correct?
A. Oh, yes.
Q. And isn't it -- isn't the national average of autopsies now dropped to between five and ten percent?
A. It's quite -- it's quite low. I don't know the exact percentage.
Q. Now, there are many reasons why you would do an autopsy, is that correct, many reasons why an autopsy would been done in a particular case?
A. Yeah, if a -- if a death was unexpected, or if there was a particularly unusual type of disease.
Q. Would there be medical examiner cases where they would be trying do establish the cause of death?
A. Yes.
Q. There could be situations where families would want an autopsy in order to determine whether there's possible genetic issues or genetic problems; isn't that true?

A. Yes.

Q. Autopsies are also done when lawsuits are involved; isn't that true?

A. Yes.

Q. And actually, autopsies are done in teaching hospitals and hospitals to assess treatment issues and the course of disease; isn't that true?

A. Yes.

Q. Are you familiar with a recent article, Doctor, or are you familiar with recent evidence that as much as 40 percent of cancer cases are misdiagnosed while a person is alive?

A. No, I am not familiar with that.

Q. Are you aware of the Journal of the American Medical Association?

A. Yes.

Q. That is an authoritative journal from the medical field, isn't it?

A. Yeah. I don't take it, though.

Q. Doctor, there was an article published last October 1998, entitled, "Autopsy Diagnoses of Malignant Neoplasms: How Often are Clinical Diagnoses Incorrect?"

And would it surprise you to learn,

Doctor, that this article found that over 40 percent of the diagnoses in cancer cases were incorrect on the basis of the autopsy?
A. You are talking about the diagnoses to the specific type of cancer or the cause of death?
Q. The type of cancer.
A. That would surprise me.
Q. Well, did you either see this article?
A. No.
Q. You didn't see this article?
A. I haven't seen it.
Q. Tell me, Doctor, why would it surprise you?
A. Well, generally, pathologic diagnosis is really quite accurate, given the -- given the, you know, the sophistication of modern diagnostic techniques in pathologist.
In solid tumors, in particular, for -- particularly the common types, I -- I don't think that very often it is difficult to make a diagnosis. There are certain types of cancers, however, in which arriving at a precise diagnosis can been quite difficult, particularly certain types of hematological malignancies.
Q. Would it surprise you, Doctor, that 33

percent of the misdiagnoses of cancer occurred in the respiratory tract?
A. Yeah, that would surprise me.
Q. So would you agree with the statement that, (As read) "Discordance rate between clinical and autopsy diagnoses of malignant neoplasms -- that's cancer -- is large and confirms the importance of post-mortem examination."
A. Yeah. Could I get a look at that, please?
MR. SIRRIDGE: Absolutely.
MR. THOMAS: Do you have an extra copy? Thank you.
THE WITNESS: Well, it -- the table that you are referring to just says, "number of undiagnosed or misdiagnosed." How many were undiagnosed and how many were misdiagnosed? Because the fact is it's been known for years that in many cases certain types of cancers are diagnosed at autopsy. They're not diagnosed at the time of, you know, while the patient is alive.
BY MR. SIRRIDGE:
Q. In fact, the lung is a very common site for metastasis or spreading of cancer, isn't it?

A. Yes.
Q. And, in fact, many cancers are found --
A. Wait, I'm sorry, I just want to make sure I understand this exactly, though, you know, I wouldn't want to read the paper, but the table says, "The number of undiagnosed or misdiagnosed," you know. They say 33 percent. Of that 33 percent, are we talking -- what percentage are we talking about the undiagnosed and what percentage are misdiagnosed?
Q. I don't know if they broke the percentage down, but there is a statement here that eight were misdiagnosed as to the histopathology, that is, right what we're talking about over here?
A. Yes.
Q. And is histopathology the type of cell, correct?
A. I believe that's -- that's what the histopathology is, correct.
Q. Right. Six were misdiagnosed, and six had a different histopathological diagnosis at autopsy. I don't know whether those were lung cancers or cancers of the gastrointestinal tract.
A. It would be nice to know.
Q. Doctor, I'd like to turn to Jesse

Williams, and ask a few questions about his diagnosis.

Mr. Gaylord asked you a number of question about the term, "poorly differentiated carcinoma." Or actually the term "poorly differentiated." Now, pathologists use that term as a way to grade a carcinoma, correct?

A. Correct.

Q. And the way they do that is they look at the cancer cells, and decide whether they have a lot of the characteristics of that particular type of cancer or not very many of the particular types of that cancer, correct?

A. Of the normal tissue counterpart of that cancer.

Q. But see a cancer is a well differentiated, squamous cell carcinoma or an adenosquamous carcinoma, will have particular malignant psychology?

A. Correct.

Q. Or particulate malignant aspects to the cell; isn't that correct?

A. Correct.

Q. And if it doesn't have those very well defined, it ends up on the end of poorly

differentiated versus well differentiated. Is that fair?
A. That's part of it, yes.
Q. And isn't it true, Doctor, that experienced pathologists can disagree on the diagnosis of poorly differentiated carcinomas?
A. That's true.
Q. And poorly differentiated lung carcinomas as well, correct?
A. Sometimes, yes.
Q. In fact, there is a significant disagreement with respect to the diagnosis of poorly differentiated lung carcinomas; isn't that correct?
A. That's correct.
Q. And we're talking about non-small cell lung cancer here, weren't we?
A. Yes.
Q. Doctor, when did Mr. Williams' tumor starts growing?
A. Excuse me, though. When we make a diagnosis, we -- we just don't rely on the pathology, okay? There are other things that we take into account; for example, the clinical presentation, radiologic findings. And in this

patient's case, the findings at the time of bronchostomy.
Q. Right. But the cell-type diagnosis is made by pathologists?
A. Correct. Yes, that's correct.
Q. And they don't call the radiology lab to find out whether they should call it adenocarcinoma or small cell carcinoma --
A. No.
Q. -- right?
A. That's right.
Q. Doctor, let me ask you, when did Mr. Williams tumor starts to grow?
A. When did it start to grow? At the time of the -- at the time the final genetic event occurred that led to the development of an invasive cancer. And it continued to grow over, probably, several years.
Q. Doctor, do you know what Mr. Williams' pulmonary symptoms were; that is, symptoms involving his respiratory system pre-1996?
A. Well, he had -- he had chronic obstructive lung disease.
Q. Well, let me ask you, when you said you looked at your chart there, is that your practice,

or the entire Health First Clinic that you have his entire record?
A. Yeah, I have the entire Health First record here.
Q. And that goes back to when?
A. The oldest note I find is June of '69.
Q. So you were aware -- actually, there has been testimony in the case that Mr. Williams had hemoptysis as early as 1991. Are you aware that?
A. Yes.
Q. And it's clear from your own consultation letter that Mr. Williams had been having symptoms of hemoptysis for a year -- approximately a year before he saw you?
A. Yes.
Q. Okay. And we agree -- excuse me -- would you agree that the hemoptysis beginning in late 1995 was probably related to Mr. Williams' cancer?
A. I don't think that that's possible to know, because of his smoking and recurrent episodes of bronchitis. It's hard to know.
Q. But would you be concerned with a person who came in with eleven months of hemoptysis?
A. Yes.
Q. What is an atypical location, Doctor, in

the lung of adenosquamous carcinoma?
A. Well, you know, as you know, adenosquamous is a relatively uncommon type of tumor. It's relatively small literature, but some of those studies indicated that adenosquamous tends to be a peripheral lesion. It tends to be present in the peripheral portions of the lung.
Q. That is the peripheral, the outside?
A. Outside, correct.
Q. Now, Jesse Williams did not have a tumor in the outside of his lungs, did he?
A. No. But tumors don't always obey the rules. I mean, these are -- these are all statements of likelihood. And we can make similar statements for all these types of cancers, but there always are exceptions.
Q. But the typical location for adenosquamous carcinoma of the lung is in the periphery of the lung?
A. That's correct, yes.
Q. And it does not usually involve the major airway, does it, central airway?
A. It's usually peripheral, correct.
Q. Which would mean it does not involve a central airway, such as the left and right main

bronchus, correct?
A. Yes.
Q. Doctor, would you agree that Mr. Williams' tumor could have been present for many years?
A. Depends on your definition of "many." Probably for several years.
Q. Well, how large was Mr. Williams' cancer in September of '96. Size wise, how large was it?
A. Well, the best way would be to look at the CAT scan report. And the mass in the region of the right hilum was about three by two centimeters. That is not on the report, but I reviewed the films and discussed it with the radiologist. It was about three by two centimeters. He also had enlarged lymph nodes as well.
Q. I'm sorry?
A. Up to four centimeters in diameter.
Q. But there were at least two locations within the airways where the tumor was two to three centimeters; is that correct?
A. Yes.
Q. In fact, a centimeter is how much in terms of inches?

A. A little less than a half an inch.
Q. So three centimeters would be how many inches?
A. A little over an inch.
Q. So several different places in the lung -- or several different places in the airway where a little over an inch of tumor, correct?
A. Well, the -- the tumor in the airway, you know, based on my reading of the bronchostomy report was actually one -- one tumor. Starting in the right main stem bronchus, extending approximately to the carina, and then farther down into the -- into the bronchus intermedius. I had interpreted that to be one large tumor.
Q. How did you determine where the tumor started from?
A. You mean where in the lung it started?
Q. Actually, how did you determine it started in the lung?
A. Based on the bronchoscopic findings that this was an inner bronchial lesion, meaning that it was present in an airway. It is very unusual, for example, for cancers that are metastatic to the lung to present in that fashion.
Q. But a tumor can start in the

tracheobronchial tree and not be in the lung; isn't that true?
A. That's true, yes.
Q. So how did you decide it started in the lung and not in another location of the tracheobronchial tree?
A. You mean like a tracheocarcinoma?
Q. Absolutely.
A. Based on the -- on the pattern of presentation, it was primarily -- it was primarily in the right main stem bronchus. There was also metastatic spread to lymph nodes that are commonly involved in patients with lung cancer.
Q. But lower tracheal tumors at the location of the -- excuse me -- I think a drawing would be very helpful here. Doctor, I'm going to mark this exhibit as a demonstrative exhibit and ask you a couple of questions about it after I show it to counsel, here.
A. Sure.
MR. SIRRIDGE: This is going to be marked Defendant's Exhibit, for demonstrative purposes, as 919. Let me show this to Mr. Gaylord.
MR. GAYLORD: No objection, Your Honor.
THE COURT: Thank you.

BY MR. SIRRIDGE:

Q. Dr. Segal, could you tell me what this is?

A. Yes, it's a Netter drawing of the anatomy of the lungs and trachea.

Q. Fair and accurate representation of the tracheobronchial tree and the two lungs?

A. Yes.

Q. Why don't you come down, and I'll see if I can set this up in some way. I think it was getting sort of confusing, our discussion there. Maybe it will help out a little bit.

You and I were talking a minute ago about where the cancer was located --

A. Yes.

Q. -- when it was diagnosed.

A. Yes.

Q. Now, Doctor, when Dr. Turner did --

THE COURT: Mr. Sirridge, you have to do a little positioning here.

(Discussion off the record between the Court and Counsel.)

THE COURT: Does that work?

MR. SIRRIDGE: Okay.

BY MR. SIRRIDGE:

Q. Well, let me ask you, first, this is a -- this is a rendition of what is called the tracheobronchial tree. The trachea as it divides into the two bronchi, correct? The two major --

A. The two, massa and bronchi, correct.

Q. Correct. And this, of course, is the right lung, because you're looking out like this, and this is the left lung, correct?

THE COURT: Mr. Sirridge, I am going to ask you to please just slow down, so we get the terminology.

MR. SIRRIDGE: Fine. Thank you.

THE WITNESS: Bronchi, b-r-o-n-c-h-i.

BY MR. SIRRIDGE:

Q. And these are lymph nodes, correct?

A. Yes.

Q. Now, when Dr. Turner did the bronchoscopy report, he visualized, saw the tumor in the tracheobronchial tree, correct?

A. Correct.

Q. And he saw a tumor in this location above the carina in the lower portion of the trachea, correct?

A. Yes.

Q. He also saw a tumor in the left main bronchus, in the posterior area of the left main bronchus in this area, correct?
A. I don't remember that. Could I see that report, please?
Q. Absolutely.
THE COURT REPORTER: While he's looking, would you spell carina, please.
THE WITNESS: C-a-r-i-n-a.
THE COURT REPORTER: Thank you.
BY MR. SIRRIDGE:
Q. All right. This is -- that's the report. Let's go over and look at it.
A. Okay. Right. It says, "Down the right main area and down posterior wall of the left main area."
Q. Okay. Posterior? You're talking about this wall down here?
A. Yes.
Q. The tumor's down in the left side?
A. Right.
Q. And he also sees tumor here in the carina in the lower trachea, correct?
A. Correct.
Q. And also he visualizes tumor down in this

direction?
A. Correct.
Q. But cannot take the bronchoscope down and push it through because this is about 75 to 85 percent blocked; isn't that true?
A. Well, it was my understanding -- can I see it again?
Q. Yeah.
A. But at the end he says, "tumor extending down the bronchus intermedius."
Q. You said that -- my original question was, he could not have taken a biopsy down in the right vein bronchus because he could not --
A. That's correct.
Q. So the biopsies had to have been taken in the carina tracheal area or in the left main bronchus, correct?
A. Yes.
Q. So this is back to my question that started all of this and that is, how can you decide that the tumor started in the right -- actually, you said his low right lung, but how can you know where the tumor started if a large percentage of the tumor is in the -- is in the -- is in the carina area and the trachea and also the

left main bronchus?
A. Well, most likely it originated in the region of the right -- excuse me, I'm sorry -- most likely it originated in this area and grew in that direction and this direction.
Q. But there wasn't ever any tumor to analyze as a whole, correct?
A. Oh, that's correct.
Q. There was no resection --
A. Oh, no.
Q. -- no operation --
A. No.
Q. -- or study where it began, correct?
A. Right, that couldn't been done.
Q. Thank you.
I guess this get us back to this whole question of how big the tumor was. And you said there were several areas where the tumor was visualized, correct?
A. Yes.
Q. Can we assume that the tumor was at least three centimeters?
A. Yes.
Q. Now, how many -- well, let me back up a little bit. Are you familiar with the concept of

doubling time?
A. Yes.
Q. Now, how many doubling times -- and let me -- when people speak of doubling time for tumors, they are talking about the amount of time it takes for the cells to more or less separate and become two cells, correct?
A. Yes.
Q. Cancer starts like this, and would go something like the idea, the concept is -- and this would, of course -- it would be an exponential growth pattern, right? It would be --
A. Well, that's -- that's true in vitro, in cell culture, but, you know, in -- in the body, it is, you know, there is really not a lot of solid evidence to support that.
Q. Well --
A. For example, tumor cells, blood supply and growth rate declines, for example.
Q. Well, there is a substantial amount of research on the issue of lung cancer doubling times?
A. Yes.
Q. And doesn't that research show that it takes 30 doubling times to reach a level of one

centimeter and 35 doubling times to reach three centimeters?
A. That sounds about right.
Q. So I want you to assume, Doctor, that the doubling time for this cancer, the average doubling time for, say, squamous carcinoma is 100 days?
A. I am not -- I -- I could make that assumption, but I haven't looked at that literature in a while, and I can't -- I can't say for sure that that's correct or not.
Q. Well, we talked earlier about the cancer being there for several years?
A. Yes.
Q. It could have been there as much as ten years based on doubling time; isn't that true?
A. If you say that the doubling time -- that the doubling time was 100 days then, yes, that would be -- I'd have to do a quick calculation; but, yes, that would be right. Of course, you know, we can't know for sure what the doubling time of this man's cancer was.
Q. In fact, there is a range?
A. There is a range.
Q. And there is a higher doubling time for

adenocarcinoma that for squamous carcinoma; isn't that correct?
A. A faster doubling time, yes.
Q. Doctor, would you check your chart there, and I will put this on the screen here.
This is -- I believe it's Plaintiff's Exhibit 164, Page 323. Now, this is a letter -- or, actually, it seems to be a letter, but it's, "To Whom it May Concern."
A. Yes.
Q. "To Whom it May Concern." That was in your particular medical chart, correct?
A. Yes.
Q. Now, Doctor, is it -- is it your normal practice to put, "To Whom it May Concern," letters about the causation of cancer regarding your patients?
A. If I -- if I remember correctly, this was a letter that the patient's family had requested in order to -- I'm not completely sure about this, but, I believe, to collect on some sort of an insurance policy or they needed some sort of documentation to that effect.
Q. Do you recall whether it was the -- whether it was the family that requested it or the

attorneys that requested it?
A. Oh, it was -- I'm virtually certain it was Mrs. Williams.
Q. Well, let me ask you, Doctor, we talked to epidemiology earlier, and there are a number of factors that need to be considered in your study in the relationship between, say, smoking and disease, correct?
A. Yes.
Q. And some of those factors can affect the relationship?
A. Yes.
Q. And there are things like occupational exposure, correct?
A. Correct.
Q. Genetic history or family history, correct?
A. Yes.
Q. And those are factors that you asked about when you're interviewing people, correct?
A. Correct, uh-huh.
Q. And you asked about occupational exposure when Mr. Williams first visited you --
A. Yes.
Q. -- correct? And I believe your records

indicate that he reported that he had a significant exposure to dust and asbestos, correct?
A. Correct.
Q. He also indicated that there was a family history of lung cancer, correct?
A. Yes.
Q. And you took this information because it is relevant clinical information that you collect that might be related to your analysis of the case, correct?
A. Yes.
Q. Now, did you find out -- well, let me ask you, did you ask Mr. Williams the kinds of occupational exposures he had before he was with the Portland School District?
A. I can't recall, but it's -- I certainly don't see it in my consultation notebook.
Q. There was testimony yesterday that he began with the School District in 1981. Did you ask him what he did between 1953 and 1980?
A. I don't recall specifically asking that. I asked him what his occupation was.
Q. And you assumed that that had been his occupation for 40 years?

A. I think I did, yes.
Q. So you wouldn't know what he did between 1953 and 1981, when he started with the school district?
A. No.
Q. Doctor, do you know what kind of cancer his -- kind of lung cancer his brother had?
A. No, I don't.
Q. Doctor, your office records note that Mr. Williams died of hemoptysis on March 17th, 1996, correct?
A. Yes.
Q. But you did not sign that final report from the medical records, did you?
A. No, I didn't.
Q. That was your partner, Dr. Hanson?
A. Correct.
Q. But Dr. Hanson had only seen Mr. Williams one time; isn't that correct?
A. I am not sure if he had actually seen him or not, but had spoken on the telephone.
Q. Why would have filled out the final record instead of you?
A. I was -- I was on vacation at the time.
Q. And then you did not sign the death

certificate we saw earlier either, correct?
A. No, Dr. Hanson did.
Q. Doctor, are you aware that the final record in your chart is Plaintiff's Exhibit 164, 270?
A. Yes. Yeah, I've looked at that.
Q. Seen that record?
A. Yes.
Q. It says: "Patient expired, hemoptysis, wants autopsy."
A. Yes.
Q. Do you see that?
A. Uh-huh.
Q. Who wanted the autopsy?
A. Well, this is -- this is my partner's note here. This is Dr. Hanson's note. And I asked him about this, actually, and he indicated that at the time the family had indicated some interest in what -- in what the actual cause of -- what actually happened, what the cause of death is.
Q. But there wasn't any autopsy done, was there?
A. No, apparently, it was not.
Q. Doctor, let me ask you one final

question. I'd like you to assume, Doctor, that Mr. Williams, Jesse Williams, did not start smoking until 1988. Instead of having a 48-year history, he had no history of smoking?
A. In 1988?
Q. That's when he started smoking in 1988.
A. Yes.
Q. In your opinion, if he only smoked for eight years, would he have developed lung cancer from his smoking?
A. It would have been very unlikely.
MR. SIRRIDGE: Thank you. No further questions.
THE COURT: Mr. Gaylord, how much in redirect?
MR. GAYLORD: Oh, 20 minutes.
THE COURT: I think we'll take the afternoon recess. There's been a lot of material covered. The break will probably do us all good. Leave your notes on the chairs, please, jurors, 15 minutes. Watch your step. Don't discuss the case.

(Whereupon, the following proceedings were held in open court, out of the presence of the jury at 2:45 p.m.:)

THE COURT: Okay. Anything for the record?

MR. SIRRIDGE: No, Your Honor.

THE COURT: All right. Fifteen minutes, please.

You can step down, Doctor.

(Recess taken.)

(Whereupon, the following proceedings were held in open court, the jury being present at 3:05 p.m.:)

THE COURT: All right, Mr. Gaylord.

MR. GAYLORD: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MR. GAYLORD:

Q. Dr. Segal, you were asked a number of questions about doubling times. Do you remember that?

A. Yes.
Q. First off, are doubling times a theoretical model for how tumors grow?
A. Yes. Well, the theoretical models relate to how doubling time is regulated.
Q. Right. And the idea here is that for a given cancer cell in a given individual body, there is some sort of natural rate of cell division, and that's what they mean by doubling?
A. Yes, it's dependent on a number of factors.
Q. Yes. I said, as a theoretical model. And I guess part of that is called "model" because it is based on the idea that a cell divides into two cells, and then those two divide again right at the same time. And then the four divide right again at the same time. And that continues on all the way through the life of the tumor.
MR. SIRRIDGE: Objection, that is leading.
THE COURT: It is leading, Mr. Gaylord.
MR. GAYLORD: I'll try to refrain, and I'll rephrase.
BY MR. GAYLORD:
Q. Are there some difficulties assigning

doubling time to the real world affecting tumors in bodies?
A. Yeah. Right. Because the cells and tumors are not homogeneous. I mean, they vary depending on the number of factors including the genetic features of the cells, the availability of nutrients to support cell growth, and proximity to blood supply.
Q. Are all doubling times the same?
A. No.
Q. Should doubling times differ in the same way that the aggressiveness of tumors work?
A. Yes, yes.
Q. And so if a tumor is considered aggressive, would you expect it then to have a relatively shorter doubling time?
A. Yes.
Q. And if it had a longer doubling time, would that be another way of saying it wasn't as aggressive, it was slow growing?
A. Yes.
Q. Are you familiar with Dr. David Burns?
A. Yes.
Q. Is Dr. Burns a recognized and well-respected expert in the fields of lung cancer

and smoking relationships?
A. Yes.
Q. And is he published with respect to statistical analyses of lots of different things about that?
A. Yes, he has.
Q. Now, the jury heard some testimony this morning from Dr. Burns. I'll ask you to assume for a question -- assume Dr. Burns testified that the average period of time from the first cancer cell to the death of the lung cancer patient is three to three and a half years?
A. I would agree with that. I think there is some range, but that's a reasonable estimate.
Q. Okay. Have you ever attempted to calculate what that would mean in terms of doubling times, just in doing the arithmetic?
A. No, actually, I haven't.
Q. Well, I've tried to. If I can get over to where I can use this.
MR. GAYLORD: I think what I want to do is just pose a calculation, if I can lead just far enough to get it on the board, Your Honor, or Counsel, and then I'll ask the witness to commitment on it.

BY MR. GAYLORD:
Q. If a tumor goes three and a half years from the first abnormal malignant cell to the death of the patient, three and a half years would be 365 times 3.5?
A. Yes.
Q. And if I did the arithmetic correctly, I think that's 1,277.5. And then would it be appropriate if we would, say, taking Mr. Sirridge's figure of 35 doublings to reach three centimeters. So if you divided this by 35, and since I just multiplied by 33 to get there, I know that the outcome is. 36.5 days.
A. Yes.
MR. SIRRIDGE: This is a leading question he is doing the calculations.
THE COURT: Whoa.
MR. SIRRIDGE: Your Honor, they call me a potted plant.
THE COURT: Now, I know why. I get to make a ruling. You made an objection. He gets to do his math. And then the witness get to comment on whether it is competent math. Then if you have an objection, let me know.
BY MR. GAYLORD:

Q. Dr. Segal, to get past this point, assuming I did the arithmetic correctly -- I am not sure, but let's hope so -- would the result of 36.5 days be an appropriate calculation of the doubling time for the cancer that took three and a half years to get from one cell to three centimeters?
A. Yes.
Q. And do you have an opinion whether that is a reasonably logical medically sensible doubling time for a lung cancer?
A. I think it is a reasonable ballpark figure, yeah.
Q. Bear with me. These question are going to be scattered, just kind of backwards through by notes from what Mr. Sirridge asked you about.
I think if you would step down here just for a moment, I just have a couple questions about this. For the record, this Defendant's Exhibit 919, and it's the drawing or enlargement of a drawing of some lungs. And this the trachea, the middle thing up here, is it?
A. Yes.
Q. If the person that this is an anatomy from smokes, where does the smoke come in?

A. It comes down the trachea.
Q. Okay. And it goes out through these branches to the lungs?
A. Yes.
Q. If there was a suggestion that the tumor in Mr. Williams' case might have started in the trachea instead of the lungs, first question, does that change anything.
A. In terms of the treatment, probably it would.
Q. Okay. Was it your opinion that it started in the trachea or the lungs?
A. No, it was my opinion that it started in the lungs, major bronchi.
Q. Do you have an opinion from your knowledge and experience and training whether cigarette smoking is the major risk factor for cancer of the trachea?
A. It is.
Q. Is cigarette smoking the major risk factor of cancer of the entire airway from the mouth down to the lungs?
A. Yes, it is.
Q. If a lung cancer arises, for whatever reason, closer to the center instead of out on the

edges of the lungs, and closer to the central airway -- that's those big branches, things -- and the central blood vessels of the lungs, would such a tumor be more likely to show symptoms early or later?

A. It would probably be more likely show symptoms sooner, or earlier.

Q. There were questions about missing diagnoses and statistics about whether diagnoses are accurate or not. First of all, were you able to determine whether the statistics that were being discussed were made up mostly of wrong diagnoses or were they made up mostly of non-diagnoses?

A. It's is not broken down in the paper.

Q. Is there any question of non-diagnosis in Jesse Williams' case?

A. You mean that he did not have cancer?

Q. Or that he did not have a diagnosis.

A. No.

Q. This was clearly a diagnosed cancer?

A. Yes.

Q. It wouldn't fit in a statistic for non-diagnosis?

A. Correct.

Q. And then I guess the other part of what is being suggested is that sometimes the diagnosis is wrong. You mentioned -- I want to bring back the subject of some of those statistics clearly state that they're saying that somebody got the wrong thing to biopsy; is that right?
A. Yes.
Q. And in the world of diagnosing cancers, is it important to make sure that you take tissue from the right thing, if it's a tumor and what kind of tumor it is?
A. Yes.
Q. Let me ask you about Jesse Williams' case. You are familiar with Dr. Turner's report?
A. Yes.
Q. Dr. Turner is a pathologist, and you used a thing called a bronchoscope?
A. Excuse me. Pulmonologist.
Q. What did I say?
A. I think you said pathologist.
Q. I am sorry. Yes, he is a pulmonologist. And it is within his specialty to use this thing that goes down your windpipe and looks inside your lungs?
A. Yes.

Q. And you know his report in this case, and you a got a copy of it in your file?
A. Yes, I looked at it. Yes.
Q. It is clear in his report that he wasn't flying blind, he was actually looking at the tumor?
A. Yes.
Q. He used one of these fiberoptic things that allowed him to see right down into Jesse Williams' lungs --
A. Yes.
Q. -- into to his trachea, the things that he describes where the tumor was are eyewitness reports?
MR. SIRRIDGE: Excuse me, Your Honor. Could we follow questions here rather than just leading questions.
THE COURT: Leading objection is sustained.
BY MR. GAYLORD:
Q. Is there any question from what you know and what the reports show in this case whether Dr. Turner found and identified the tumor that was in Jesse Williams' lungs?
A. No, no question.

Q. And when Dr. Turner reports that he took multiple biopsies -- is that what his report says?
A. I would need to look at it, but usually they do take multiple biopsies.
Q. I'll read from Page 482 of Exhibit 164. "Following inspection of the airways, multiple biopsies were obtained and submitted for histology." Histology means the biopsy is sent to a pathologist to look at it under a microscope?
A. Yes, that's correct.
Q. As you understand what is done in a bronchoscopy procedure and what Dr. Turner did here, is there any question in your mind that Dr. Turner visualized the tumor and took pieces of it with an instrument?
A. No question.
Q. Do you have any reason to be concerned in this case about a possible misdiagnosis because he didn't have tissue from the right place?
A. No.
Q. Did Jesse Williams ever have signs or symptoms of cancer in any other part of his body besides his lungs?
A. No.
Q. Now, there was some discussion about

autopsy and the question of an autopsy. You recall that you were out of town on vacation at the time Jesse Williams died?
A. Yes.
Q. Do you recall a conversation that you and I had at the end of that week when you come back?
A. Yeah, I -- you called me at home. I remember, yes.
Q. And I left messages for you that week, and you returned the call when you got back from vacation?
A. Yes.
Q. Did I have a conversation with you about the subject of an autopsy for Jesse Williams?
A. Yes.
Q. Did I raise the question with you whether an autopsy was essential or important in view of the opinions that I might need from you in this case?
A. Yes.
Q. Did we discuss the fact that, in fact, it was too late and Jesse Williams had been cremated before we had such a conversation.
MR. SIRRIDGE: Objection, leading.
MR. GAYLORD: I'll rephrase.

THE COURT: Yes.
MR. GAYLORD: I am going to rephrase the question.
BY MR. GAYLORD:
Q. Do you recall being made aware that Jesse Williams' body had been cremated before we had our conversation about an autopsy?
A. I subsequently learned that, yes.
Q. And do you recall and did we discuss that you felt there was plenty of evidence on which you could base opinions in this case?
MR. SIRRIDGE: Leading, again.
THE COURT: Sustained.
BY MR. GAYLORD:
Q. Were you able to express to me the opinions that he felt comfortable with about the cause of Jesse Williams' cancer?
A. Yeah, I was -- based on the circumstances and the information that I had, I thought it was extremely likely, if not certain, that he had died of lung cancer.
Q. Just a couple more areas. There was discussion about the concepts of latency, latency periods --
A. Yes.

Q. -- and again, some statistics, I guess, about how long something takes with respect to lung cancer from smoking.

What is the period that is being referred to as a latency period in smoking-caused lung cancer, from when to when?

A. The period from the onset of smoking to the time in which there is a significant increase incidence of lung cancer.

Q. Now, I would like to see if we could put that into context. The jury has heard testimony, again from Dr. Burns this morning, and seeing diagrams talking about stages that the tissue goes through on its way to lung cancer from smoking.

Have you and I had a conversation about some of that same information and changes that tissue goes through?

A. Yes.

Q. With respect to this term of latency, is the latency period one that includes the time when smoke inhalation causes irritation of tissues?

A. Yes.

Q. Can you comment on whether the latency period includes a period beyond mere irritation where changes begin to appear in the surface of

the lung?
A. Yes. The latency period is the time from the onset of smoking until the diagnosis of a cancer, detectable cancer. As we discussed, you know, a cancer cell has to go through a certain number of doublings before it becomes clinically evident.
Q. Let me see if I can do it this way. Strike that. Let me ask you to assume that we have some evidence to the effect that the period of time when cilia, the hairs on the surface of the lung tissue, are damaged. And then there is a period of time when stages occur that are referred to as metaplasia and dysplasia?
A. That's correct, yes.
Q. Am I giving the right words?
A. Yes.
Q. And then eventually there is a period of time when all of that changes finally into something carcinoma in situ?
A. Right, non-invasive cancer. Correct.
Q. In that course of time when those changes occurred, through loss of the cilia and changes in the cells, and changes in the DNA, and metaplasia and dysplasia, and then carcinoma in

situ, is there some stage in that process that is sort of irreversible with respect to cancer?
A. Certainly. When carcinoma in situ has developed, it's generally thought to be irreversible.
Q. Is that the first irreversible stage in this process?
A. Probably that's something that everyone would agree with, yes.
Q. Final area --
A. Could I just add one thing, though. The distinction between severe dysplasia and carcinoma in situ is sometimes a difficult one to make.
Q. Okay. New subject. There was talk about what happens when a person stops smoking and what does that do to their prospects.
A. Yes.
Q. Okay. Let me see if I can phrase it this way.
If Jesse Williams had been given by Philip Morris sufficient information that he was able to quit smoking in September 1988, then do you have an opinion whether his chances of getting lung cancer would be reduced by more than 50 percent over the ensuing eight years?

A. I believe the risk would have been reduced by over 50 percent, yes.
MR. GAYLORD: Thank you, Dr. Segal.
THE COURT: Thank you, Dr. Segal. You may step down.
Plaintiff's next witness.
MR. THOMAS: Your Honor, the defense is going to begin it's cross-examination to continue to conclude the reading that we had this morning.
THE COURT: Dr. Burns, yes, come on back up, please.
(Previous sworn testimony of witness for the plaintiff, David Burns, was read into the record as follows:)

CROSS-EXAMINATION

(As read)
BY MR. RANDLES:
Q. And let me show you, Doctor, what is in evidence in this case as A2633.
For the record, it's a copy of an interview -- an article from U.S. News and World

Report, February of 1954, with Dr. E. Cuyler Hammond, director of statistical research, American Cancer Society. Do you see them, Doctor?
A. Yes, I am familiar with Dr. Hammond.
Q. Now, this is 1954, right about the time when the smoking -- the rate of smoking started going up, correct?
A. That's correct.
Q. And in this article, Doctor, if I could just refer you -- in fact, I have got in paragraph here. I have got this blown up to make it a little bit easier to read.
In this U.S. News and World Report article, Dr. Cuyler of the American Cancer Association was asked this question:
Does smoking really cause lung cancer, Mr. Hammond. People are saying all sorts of things about cigarette smoking.
Answer: That's just what we are trying to find out. There is some evidence it may be so. For example, material collected from cigarette smoke will produce cancer on the skin of a susceptible mouse if you keep up the experiment long enough. That's an important piece of information, but taken alone, it doesn't prove a

thing about the occurrence of lung cancer in human beings. It has to be weighed together with other evidence, and we're still collecting information.
Do you see that language?
A. Absolutely. And I would agree with it.
Q. All right. Let's look at the next page of the article, Doctor, which is, and I will have to read this, I don't have a blowup of it.
He says, and this is a project to find out -- this is Dr. Hammond of the American Cancer Society, and this is a project to find out what you can about whether lung cancer is caused by smoking or not.
Answer: Well, it's actually a little more than that. We are undertaking the project because there is reason to suspect that smoking may cause lung cancer. We don't know it. But there is good reason to suspect it.
Do you see that statement, Doctor?
A. Yes.
Q. Now, Doctor, this is a statement by an American Cancer Society senior official in February of 1954. If a cigarette company in February of 1954 made the statement, that although there is serious research on this issue, we do not

know whether smoking causes cancer, what the American Cancer Society was saying, you wouldn't blame them for making that statement in February of 1954, would you, Doctor?
A. In February of 1954, I think it was appropriate to be cautious about drawing the conclusion. Dr. Hammond in that article is describing the study that he was doing at the time that he published in that year. So, therefore, I think that prior to its publication, it is appropriate to be cautious, and that is a perfectly legitimate statement to make at that point in time.
Q. But again, if in 1959 -- to be real precise, November of 1959, Doctor, a cigarette company made the statement that not all investigators are in agreement with the conclusions reached by Hammond and Horn and Hill and others, that would be a correct statement, at least according to the Surgeon General of the United States, wouldn't it?
A. That would be a technically correct statement. The question would be the context in which it was presented.
Q. In 1961, Doctor, the Surgeon General of

the United States, specifically in June of 1961, announced the appointment of the first Surgeon General's Committee on Smoking and Health?
A. I am not sure of the exact date, but yes, it was approximately that time.
Q. And that committee convened in early 1962 to begin its work?
A. That's correct.
Q. And that committee consisted of ten scientists, independent scientists from around the country, who were called together to take a look at all the evidence and come up with an official position of the public health service of whether cigarettes caused cancer?
A. That's correct.
Q. These were not scientists from the United States Government Public Health Service, correct?
A. No, they were not.
Q. They were not scientists from the tobacco companies, correct?
A. No, they weren't.
Q. They were independent scientists from around the country?
A. Yes, that is correct.
Q. And the Surgeon General appointed this

committee and this committee studied the question for two years?
A. I believe it was a little less than two, but pretty close.
Q. If they began in early 1962, as I think we just agreed a minute ago, and issued their report on January 11, 1964, it is right about two years of study?
A. I would be happy to accept two years. That's fine.
Q. Now, when they finally -- after two years of study, all of the evidence that was out there, and, Doctor, I assume these scientists, they looked at both sides of the issue. They look at all the different data that was available as far as you know?
A. Well, my understanding is they looked at all of the data that they had available to them. As we discussed the other day, not all of the information that was available was available to them.
Q. But they looked at everything that they had available to them?
A. Absolutely.
Q. The pros and the cons?

A. They looked at everything that was available in the literature, that's correct.
Q. And they issued in January of 1964 the landmark study by the first Surgeon General's committee, Advisory Committee on Smoking and Health, one of the most widely publicized public health documents in history?
A. Yes.
Q. And referring to Page 20, now, in the course of the work they did, one of the things they did was the scientists had to decide, Doctor, was what exactly is the meaning of the word "cause"?
A. Well, yes, they did have to decide that, that's correct.
Q. Because for those of us here who are not in the medical profession, there is an English language definition of the word "cause," correct?
A. That's correct.
Q. Cause means something that results in something else?
A. That's correct.
Q. But it is not so simple to define the word "cause" in the medical profession?
A. Well, whenever you get to a group of

scientists together to work on a definition, things that are intuitively obvious become very complicated.

Q. In fact, the Surgeon General's committee, in its report in 1964, devoted a whole section of the report to a discussion. This is Pages 20 and 21, Counsel. Discussion to the issue of causality?

A. That's correct. To the definition of the term "causality" and the criteria that would be used to assess it.

Q. Now, let's just take a look at the section in Page 20 of the Surgeon General's landmark 1964 report.

These scientists, these ten scientists who had labored for two years studying all of the evidence to decide in the mid-1960s whether smoking causes cancer, had meetings at which they, various meetings and conceptions of the term "cause" were discussed vigorously, right?

A. That's correct.

Q. The Surgeon General's committee reports various meanings and conceptions of the term "cause" were discussed vigorously at a number of the committees and subcommittees. Do you see

that?
A. Yes.
Q. They talked about the concepts of causality that had determined human attitudes and actions back from the days even before the days of Aristotle, true?
A. Yes. There is an entire body of philosophy that examines the question of causality.
Q. And at Page 21 they talk about what some of that discussion was. They said here at Paragraph 3 that the characterization of the assessment called for a specific term. The chief terms considered factor, determinant and cause.
Do you see that?
A. Yes.
Q. And there was obviously, from the previous page, not agreement an agreement, at least initially among these ten scientists as to what the term ought to be, true?
A. Well, I'm not sure that I would characterize it quite that broadly. There was an effort on the part of these scientists to find a scientific definition that would allow a clear communication of the English language

understanding that you were referring to, which is that something results in something else.

And this was an effort to examine the way that term was used scientifically and philosophically and come up with a term that would communicate to people exactly the message that you referred to earlier, that when people smoke cigarettes, they get lung cancer because of their smoking cigarettes.

And so there were a variety of terms that were considered as to which term might best communicate that information directly.

Q. The term they chose was "cause"?

A. The term they chose was "cause".

Q. After vigorous discussions that were described on the previous page?

A. That's right. Anybody who has ever seen a committee of scientists know that all discussions are vigorous.

Q. They said, and then the Surgeon General wrote in this report, a certain Surgeon General's committee wrote in this report, "It should be said at once, however, that no member of this committee use the word "cause" in an absolute sense in the area of his study."

Was that language included in the Surgeon General's Report in 1964?
A. It certainly was included. And what they were referring to was that some people use the term "cause" for a process. That is exclusive. That is, the only cause of lung cancer would be cigarette smoking.
And other people would use the term "cause" for the proximate cause, the last system in a chain of events that ultimately results in the cancer, and that they were not using the term in either of those contexts.
Q. Less than 10 percent of life-long smokers develop lung cancer, true?
A. As a group, that is probably accurate. It is a little higher among people who smoke a couple of packs per day.
Q. Let's take an average pack, pack and a half a day smoker. 90-plus percent of those people will not develop lung cancer?
A. That's right.
Q. And the fact of the matter is that no one completely understands why it is that one person will develop lung cancer when exposed to a certain amount of smoke over a certain period of time and

somebody else won't?
A. That's correct. There are differences in susceptibility based on genetics that we partially understand. But the bulk of the difference remains unexplained.
Q. Doctor, if I am to understand your resume, you graduated from medical school in 1972?
A. Yes.
Q. By the time you went to work for the Public Health Service and wrote the 1975 Surgeon General's Report, Doctor, you had never written anything on the subject of smoking and health, had you?
A. That's correct. That was the first publication. And as with many first efforts, either clinically or academically, I had lots of help and lots of supervision.
Q. That's right. There were a lot of people involved in that report, weren't there, Doctor?
A. Right. But I was the one that had to do the writing. And I have to tell you it was difficult and a painful experience to learn how to write. And so --
Q. For someone --
A. And I take credit for it.

Q. For someone who had never written on smoking and health before?
A. That's correct. I had to reviewed a lot of information. I had to learn a great deal about how to express that information.
Q. And someone who had never done any independent research on smoking and health?
A. That's correct.
Q. And, Doctor, in fact, by the time you joined the Medical Health Service and wrote the 1975 Surgeon General's Report, as you have characterized it, you yourself had never been engaged in the unsupervised practice of medicine, had you?
A. No, that's not true, I had been working in emergency rooms as a fully licensed physician in the state of Massachusetts. However, I had not completed by residency at that time, and I had not opened a practice at that time.
Q. Let me rephrase my question then, Doctor. At the time you worked on the Surgeon General's Report, you had not previously been engaged in the unsupervised practice of medicine except for a couple of nights in an emergency room; is that correct?

A. Well, it is more than two nights in an emergency room. I was moonlighting as a medical resident covering in an emergency room, but it is true that I went immediately from my residency to my tour of duty in the Public Health Service without any interval of time in between while I was practicing medicine independently.
Q. Did you testify under oath, Doctor, in a pretrial deposition on December 12, 1996, in connection with the case of Mike Moore versus The American Tobacco Company?
A. Yes, the Attorney General of Mississippi case.
Q. Were you asked this question. This is at Page 151, Counsel, and did you give this answer?
"Question: Now, at the time you drafted the Surgeon General's Report, you had not previously been engaged in the unsupervised practice of medicine except for a couple of nights in an emergency room; is that correct?
Answer: That's correct.
A. That's correct, sure.
Q. Now, Doctor, let me come back here to your work on this case. It's very common, isn't it, when people have been in a government job, a

government services job, for them to, after they get out of government employment, to use that work as a foundation for going into a private consulting business? You have heard of that happening many times, correct?
A. Yes.
Q. And you yourself, after you got out of your tour of duty, your two year tour of duty, you went to work, did you not -- I mean, part of the things you did, you began practicing medicine, I assume?
A. No, I went to a fellowship or chest medicine at UCSD, where I was in a training program for three years learning to be a specialist in lung disease.
Q. And the other thing you did, in the late 1970s, 20 years ago, Doctor, was you started a private consulting business as a consultant and expert witness in cases against my client and these other cigarette companies, true?
A. I don't know exactly what you mean by started a private consulting business. I did indeed act as an expert witness in a case on peripheral vascular disease, which I believe was the first time I was involved in a legal case.

And I thought that that case was sometime in the mid-1980s, but I am sure you have a more accurate date for that.
Q. Let me just see if I can refresh your recollection, Doctor, because you testified, did you not, on August 8, 1996, in the case of Rogers against Reynolds?
A. I did, yes. But that case I believe is much more recent than 1979.
Q. Indeed. It's August 8, 1996?
A. Okay.
Q. And in that testimony you were asked this question, and did you -- these two questions. Did you give these answers:
"Now, without regard to this list we were looking at earlier, I want to ask you specifically about your involvement in other tobacco and health cases?
"Answer: Yes.
"And your involvement goes back to the late 1970s, doesn't it?
"Answer: I believe so, yes."
Does that refresh your recollection, Doctor?
A. Yes, but I believe that the first case

that I testified in was the Roysden case, R-o-y-s-d-e-n. And I thought that that was a case that was in the early 1980s. But, you know, I don't want to quibble with you about the dates. I certainly have testified in a number of cases, and I have been paid for testifying in a number of cases. And I have certainly taken that income and in my income tax returns it is listed as a business, that's correct.

But I don't have a business license as a separate consulting business, and I don't have an office that is David Burns Consulting. That is done separate from the work that I do with the university.

Q. Now, I really wasn't asking you questions about the cases in which you testified. My question was about cases in which you have been hired as a private consultant against my client and these other tobacco companies, regardless of when you actually testified in a case. And that involvement goes back, putting aside Roysden, which we will come back to, that involvement goes back, as you testified, to Rogers in the 1970s, correct?

A. It may well have. I certainly would have

probably talked to lawyers on the phone. But as I recall, maybe there were some cases that I don't remember, but as I recall, the first case that I was really involved in as an expert was that one.
Q. Now, I want to put aside -- I want to speak more broadly than just to cases in which you actually testified because many cases don't end up going to trial, correct?
A. That's correct.
Q. So I want to ask you about all of the cases which -- we're not going to talk about all of them, Doctor, but I want to ask you about the cases in which you have been hired as a private consultant against tobacco companies.
There have been, can we agree, cases of this sort that you have been a consultant against us all over the country?
A. There are cases in several different states and many jurisdictions, that's right.
Q. Well, several different states. Where was Roysden?
A. Roysden, I believe, was in Kentucky.
Q. Where was Rogers?
A. Rogers was in Indiana.
Q. You testified in Mississippi in the

Wilkes case?
A. Yes.
Q. And the Horton cases, where were they?
A. They were also in Mississippi.
Q. And the Bluit workmen's comp case, where was that?
A. I believe that was in Texas.
Q. And the Dunn case in Indiana, just this year, correct?
A. Yes. That was the Wiley case.
Q. The Castano case in Louisiana?
A. I don't know whether I ever testified in that case. I certainly gave a deposition in that case.
Q. Doctor, again, I want to try to be as clear as I can. I do not want to talk about the cases in which you have testified. I want to talk about the cases in which you have been engaged as a consultant.
A. I'm sorry. I thought you had been limiting this to cases where I had been testifying.
MR. RANDLES: May we approach?
THE COURT: Yes, sure.

(Sidebar conference between Court and counsel, off the record.)
THE COURT: All right.
MR. RANDLES: Thank you, Your Honor.
BY MR. RANDLES:
Q. And for that time, all those hours, you got paid by the hour for all that time you worked as well as your testimony here today?
A. Yes, I do.
Q. And what is the hourly rate at which you get paid, Doctor?
A. I charge $350 an hour.
Q. Now, Doctor, in addition to your work as a private consultant in these kinds of matters, in addiction to your work in the university there, you are also involved in an organization at the University of California San Diego known as the Tobacco Control Policies Project, correct?
A. Well actually, that is the research group that I run. And it's a group of, oh, nine, ten individuals. We do analysis on and research on the questions of how public policy changes, influences smoking behavior, and how you evaluate the success or failure of various tobacco control

programs. But yes, that is what we call the group that I have instituted at the University of California San Diego.
Q. So the answer to my question is yes?
A. Yes.
Q. So now do I understand correctly that the Tobacco Control Policies Project is a project to develop policies to control tobacco?
A. No. I mean I can answer the question, if you like.
Q. Sure, please do.
A. It is a project to study the impact of tobacco policies. We are interested in examining the effects of advertising campaigns, of restrictions on where people can smoke, on various cessation methods, on a variety of other public policy changes surrounding tobacco and the consequences of those public policy changes for -- preventing people from starting and getting people to quit.
Q. Okay. Well, Doctor, you, as part of your work at the Tobacco Control Policies Project, at least you personally, have a goal of creating a cigarette-free society, true?
A. Yes. My goal, as a physician, is to try

to eliminate the diseases caused by cigarette smoking. And at this moment in history the only way we can understand to do that is by getting people to quit smoking. So yes, I think that it would be my goal, and a positive stance for society, to have no one that smokes.
Q. Although you're not a member of the AMA, I take it you are familiar with that organization?
A. Yes.
Q. And with its publication, the Journal of the American Medical Association?
A. Yes.
Q. And with the different aspects of the organization?
A. Some more than others.
Q. Are you familiar with one in particular, called AMA ERF, Educational Research Foundation?
A. I am familiar with that in its past. I am not familiar with it as it currently exists. But I am just familiar with it as a past event related to tobacco, yes.
Q. At one point they had -- well, putting aside tobacco, the American Medical Association had a wing or branch called the Educational Research Foundation, correct?

A. That's correct.
Q. And one of the projects at the AMA Educational Research Foundation undertook was a project on the issue of smoking and health, correct?
A. My understanding is that they received a large sum of money from the tobacco companies to conduct research and they did conduct a variety of different research activities and then published a final report sometime in the early '80s, I believe.
Q. Well, Doctor, let me bring you back. I think this is the last time I'll do it. To the 1989 Surgeon General's Report and to that chronology of the events that you have been asked by both counsel for the State and by me and maybe asked by others to refer to, but I think this is the last time.
There is PX3680. Right at the end of your testimony on Thursday, counsel for the State asked do you to testify about entry in 1978 that reads, AMA releases tobacco and health summarizing findings of a tobacco research program that included $15 million in financial support from the tobacco industry, concluded that smoking is

harmful to health.
Do you see that entry, Doctor?
A. Yes.
Q. This is the AMA ERF tobacco and health report that we have been discussing, correct?
A. That's correct.
Q. Doctor, let me show you, and I'll hand it up to you, what is in evidence as MD1436, a copy of Tobacco and Health, the report of the AMA ERF. Let me ask you. This again shows a date of 1978. The American Medical Association, Education and Research Foundation.
Do you see that?
A. That's correct.
Q. And if you look at the first page. And feel free to refer to the document, if you wish. Look at Page IX, Roman IX, in the introduction and it gives some background about how this organization, or how this project called Smoking and Health got founded.
Now, I want to ask you some questions about that.
A. Okay.
Q. You see at the top of the Page 10, it explains that in January of 1964 -- let me stop

there. January of 1964, that was when the first Surgeon General's committee report on smoking and health was issued?
A. Yes. It's my understanding that the funding provided to the AMA was in direct response to the Surgeon General's Report.
Q. In response to the report of the Surgeon General's committee in January of 1964, the American Medical Association entered into a five years agreement with six tobacco companies to conduct a comprehensive program on tobacco and health.
The research was to be devoted to the study of human ailments that may be caused or aggravated by smoking. The particular element or elements that may be causal or aggravating agent in the mechanisms of their action.
Correct?
A. That's correct.
Q. And it's goes on to talk about how the six participating tobacco companies, who we will come to in a minute, pledged to contribute a total of 10 million to the AMA ERF to finance this five year research effort.
See that?

A. Yes.

Q. Now, this research effort was not carried out by employees of the American Medical Association, right?

A. That's correct.

Q. It was carried out by independent scientists at institutions all over the United States and, indeed, all over the world?

A. I would expect that it was widely distributed, I don't know exactly who.

Q. Refer to the very back of the document there. Just take a moment because it has a list of the participating institutions at the back of the book and you can confirm for us that that list included many, many of the most prestigious medical research institutions in the United States.

A. Yes. There is no question that that was true. The only question I had was whether it involved an international distribution of money or not.

Q. Did you see by looking at the reference that it in does, in fact, involve international?

A. I wouldn't dispute that. I just don't know.

Q. The way that this money was given by these cigarette companies -- and by the way, it says $10 million was pledged at the end -- it's the '89 Surgeon General's record. In the end it became 15 million, correct?
A. Right, it became 15 million. It was a 1964 to 1978 project as opposed to a five-year project.
Q. The way that this project was conducted, was the Board of Directors -- it says here, well, the Board of Directors of the AMA ERF, appointed an eminently-qualified scientific committee to develop guidelines and suggestions on research policies, right?
A. That's correct.
Q. The organization that -- the smoking and health organization that would decide where to give out this grant money, that wasn't appointed by the tobacco companies?
A. No, that's correct.
Q. They were appointed by the AMA ERF, and they were appointed to develop guidelines and suggestions on research policies and procedures, identify significant areas of research and screen applicants for research grants. See that?

A. Yes.
Q. Now, let's take a look, if we could, at the list of contributors on Page 10. It includes American Brands, formerly the owner of the American Tobacco Company, Brown & Williamson, Liggett, Lorillard, Philip Morris and R.J. Reynolds; is that correct?
A. That's correct.
Q. And true to their word, the American Medical Association did, in fact, appoint a committee to take this money and to use it to research smoking and health. It consisted of eminent scientists listed at Page 11 of the report?
A. That's correct.
Q. Scientists from various organizations and from around the country, correct?
A. That's correct.
Q. And many, many of these studies resulted in published scientific studies, correct?
A. I would assume so, sure.
Q. All of them, at the end of the program in 1978, whether the -- whether the authors, these scientists at these institutions that had the results published or whether they had just

submitted them to the American Medical Association, all of them were published for the world to see in this document that you've got there entitled "Smoking and Health in 1978," correct?

A. I would assume so, yes.

Q. Let me take you through, if I could, and ask you some questions about several of the studies, and there is a big thick book, I will not take you through all of them or subject the jury to all of them with you.

I will take you through, if I can, a number of the studies that were conducted as a result of money provided by the tobacco industry, starting in 1964, and published by the American Medical Association, starting back at Page 34, "A Study of Smoke Condensate from Cigarette Tobacco as a Possible Bladder Carcinogenic Agent in Copenhagen."

See that study?

A. Yes.

Q. Does this indicate that this study was done as part of the funding provided by the tobacco companies and provided to the American Medical Association ERF some time before 1978 in

the form of a progress report?
A. I would assume so.
Q. Let me show you a study that's been shown at Page -- I believe 99 of this document, called Carcinogenic and Tumor Promoting Agents in Tobacco Carcinogenesis, c-a-r-c-i-n-o-g-e-n-e-s-i-s?
See that?
A. Yes.
Q. Same word again is the leading -- is the event leading to cancer?
A. The process by which cancer develops, that is correct.
Q. And this study, which the cigarette companies in response to the Surgeon General's Report as you explained earlier made provision for financially, was published actually in the Journal of the National Cancer Institute in 1976?
A. That's what it would lead you to believe, that's correct. I think that's true.
Q. The National Cancer Institute is an agency of the Federal Government of the United States, correct?
A. Yes, agency of the Public Health Service.
Q. In study, which was funded in part in to cancer tobacco carcinogenesis -- what he said,

which was funded in part by my client, was also funded by the U.S. Public Health Service, correct, according to this document?
A. Correct. It is very common in research that there be more than one source of funding, and it appears that the other support was from the Public Health Service.
Q. The Council for Tobacco Research, that is the successor organization to what has been referred to here as TIRC or Tobacco Industry Research Committee?
A. That's right.
Q. One other report that was published here, published by the AMA, called, "Effects of Chronic Smoking on the Clotting Mechanism."
See that?
A. Yes.
Q. The clotting mechanism refers to the process by which blood clots?
A. That's correct.
Q. This was also funded in part by the AMA through contribution by these companies and in part directly by the Council for Tobacco Research with money for these companies, correct?
A. That's right.

Q. The next one I'd like to ask you about is at Page 257. Did the tobacco companies in response to the Surgeon General's '64 report provide funding for a study, called, "Maternal Smoking During Gestation and Infant Morphologic Variation, Preliminary Report Concerning Birth Weight and Incidence of Transverse Palmar, p-a-l-m-a-r, Crease."
See that?
A. Yes.
Q. That study was published in 1974 in a journal, correct?
A. I believe that's true.
Q. Let's just take a look briefly at what the AMA says about the study. It says in its 1978 report that, "A preliminary analysis of data collected in the course of an ongoing investigation in maternal smoking in newborn morphological variation is presented.
"The association of the maternal smoking was diminished infant birth weight found by others is confirmed here and it is shown that this effect could not be attributed to the association of smoking with coffee or alcoholic beverage ingestion."

You see that?

A. Yes.

Q. At Page Bates No. 5087, of the AMA publication, does it not show that the tobacco companies, in response to the Surgeon General's '64 report, provided funding for a study on the retention of inhaled acetones, a-c-e-t-o-n-e-s, and ammonia in dogs.

See it?

A. Yes.

Q. And acetone, again, was one of the chemicals that you identified on your chart to this jury as being a dangerous thing that is found in smoking and cigarettes?

A. It is a chemical found in cigarette smoke, as is ammonia.

Q. And this work was done by scientists at the Medical College of Virginia?

A. That's correct.

Q. Published in the American Industrial Hygiene Association Journal; is that correct?

A. I believe so.

Q. As reflected at Page 302 of this document, did the tobacco companies, in response to the Surgeon General's Report, finance studies,

a study performed at the University of Cincinnati on the distribution of cadmium and nickel in tobacco during cigarette smoking?
A. I believe that that is what the document shows.
Q. And nickel, perhaps cadmium as well, to tell you the truth I don't remember, were other substances that you identified for this jury?
A. That's correct.
Q. In response to the Surgeon General's committee on smoking and health, did the cigarette companies provide funding for a study called, "Smoking as a Factor in the Development of Emphysema"?
A. Yes.
Q. Did the cigarette companies, in connection with this AMA ERF project, provide for a study by independent scientists on the biological effects of cigarette smoking in the pathogenesis of pulmonary disease?
A. Yes.
Q. That's your experiment, right?
A. That's correct.
Q. Again, pathogenesis is the biological course by which the same disease develops?

A. That's right.
Q. Last one. Did the cigarette companies, in response to the Surgeon General's Report in 1964, provide funding for a document for a study eventually published in the American Review of Respiratory Disease in 1971, and by the AMA in 1978 called, "The Respiratory Effects of Regular Cigarette Smoking in Women?
A. Yes.
Q. This the 1991 Surgeon General's Report. I'll turn so we can see it.
A. Yes.
Q. That is it?
A. Yes.
Q. Do I have the right book?
A. Yes.
Q. For the record, this is State's 3672 in evidence, and did if I go to -- this is called, "The Changing Cigarette, a Report of the Surgeon General"; is that correct?
A. That's right.
Q. Did you actually work or help edit this report?
A. Yes.
Q. If we go to Page 18 -- by the way, low

tar and nicotine cigarettes have been in the marketplace for about 25 years or so by this time; is that correct?
A. Well, as we said, filters were available from the 1940s, depending on what you mean by low tar, where you draw the cutoff. Certainly, from the mid-1950s, tar levels have been declining, yes.
Q. That's 25 years later, mid-1955 to 1981?
A. Well, if you have a declining level of tar, the target is changing. The average level of tar in cigarettes is change, so you have some cigarettes lower, some higher.
Q. The point is that cigarette companies began to focus on manufacturing low tar and nicotine cigarettes, as I think you told us yesterday, in the mid-1950s; is that correct?
A. That's my understanding.
Q. If I look on Page 18 here, it says, if I read this correctly, "The Surgeon General concluded that today's filter tips, lower tar and nicotine cigarettes produce lower rates of lung cancer than do their higher tar and nicotine predecessors."
Did I read that correctly?

A. Yes.
Q. The Surgeon General goes on to say, "Nonetheless, smokers of lower tar and nicotine cigarettes have much higher lung cancer incidents and mortality than do nonsmokers." Is that correct?
A. I think that's correct.
Q. I'll look here. What I found when I read over the report last night, and it looks to me like I read this correctly, this is Page 86, the Surgeon General, I think, when he reached the conclusion in his report says studies of smoking patterns suggest that smokers of lower tar and nicotine cigarettes tend to inhale more deeply, at higher amounts of -- how do you pronounce?
A. Carbxyhemoglobin.
Q. And it says, Have higher than expected carbon monoxide in their exhale breath. On the other hand, he says, the lower tar and nicotine cigarettes of 1980, have as little as one-fourth of the tar and nicotine of the cigarettes of the 1950s, and even if some compensation takes place, actual net smoke exposure is probably much lower."
Is that what the Surgeon General says?
A. That's what that report, that text of the

report says.
Q. The Surgeon General -- when the Surgeon General reached this conclusion that I showed you on Page 18, there is nothing, I mean, there is nothing about this that qualified it. The Surgeon General said that filter tip lower tar and nicotine cigarettes produce lower rates of lung cancer. At least that's what the Surgeon General said here.
A. There is no argument what the words up there say. The question is what the Surgeon General said in his report.
Q. By the way, what was the opinion of the public health community during the 1950s, 1960s and 1970s, what you just told the jury?
A. It is my understanding that the public health community at that time recommended that cigarettes that delivered low yields to people would be a positive health benefit.
Q. This is 1981 again, and I'll show you so there is no confusion. This is the 1981 Surgeon General's Report; is that correct?
A. Yes.
Q. Marked as Exhibit 3672.
A. Yes.

Q. This is the introduction to the Surgeon General's Report. See that?
A. Yes.
Q. And the Surgeon General in 1981, commenting on the cigarettes manufactured by my client and the other tobacco companies said the following, "Great changes have taken place in the cigarette product in recent decades. In 1954, the average tar yield of a sales weighted average cigarette was 37 milligrams, and average nicotine yield was 2 milligrams.
"In 1980, the comparable figures are expected to be less than 14 milligrams of tar and less than 1 milligram of nicotine. No cigarette marketed in the United States in 1979, yielded more than 30 milligrams of tar."
Do you see that?
A. Yes.
Q. Now, when the -- if I do my math correctly that reflects about a 70 percent drop in tar levels; is that correct?
A. I think you are correct, yes.
Q. Can you -- this is an article that I'll go down to the bottom. It is published in the Journal of Technology and Environmental, what is

it, Environmental Health, 1997.
See that?
A. Yes. Probably toxicology and environmental health, that's correct.
Q. Very recent, 1997.
A. Yes.
Q. I'll go up here, please tell the jury who the authors of this scientific study are?
A. It's Dr. Dietrich Hoffman and his wife, Elsie. They worked with Dr. Wynder at the American Health Foundation in New York.
Q. Would it be fair to say the Hoffmans are viewed as prominent researchers in the field of smoking and health?
A. They are prominent researchers in the area of smoking and carcinogen of smoke compounds, that is correct.
Q. So what they said in 1997, I am reading the summary page, but what they say, "Since 1950, the makeup of cigarettes and the consumption of the cigarette smoke have gradually changed in the United States. The sales weighted tar and nicotine yields have declined from the high of 38 milligrams of tar and 2.7 milligrams of nicotine in 1954, to 12 milligrams and .93 milligrams in

1992, respectively."
Did I read that correctly?
A. I believe you did. Quite clear that the machine measured yields has declined substantially since the mid-50s.
Q. It goes on to talk about the United Kingdom, I won't read it. Then it goes on to say that, "These reductions of smoke yields were primarily achieved by the introduction of filter tips, with perforation, selection of tobacco types and varieties, utilization of highly porous cigarette paper, and incorporation of the tobacco blend of reconstituted tobacco, open and cut, ribbed and expanded tobacco."
See that?
A. Yes.
Q. And do you believe that's a truthful statement made by Dr. Hoffman in that article?
A. I do.
Q. The ways that the tobacco companies have found -- strike that question.
Do you have any idea how much money, Research & Development money, has been spent by the tobacco companies to develop the technologies that results in the lower yield tar cigarettes?

A. No idea.
Q. Made no effort to study that?
A. I don't know where that data would be available.
Q. So you don't know?
A. Right. I thought that's what I said.
Q. I want to make sure you haven't seen data. You said you've seen a lot of documents and reviewed a lot of information from the tobacco companies.
A. That's correct, but I've never seen any data that described the total what their R&D budgets were.
Q. I take it as an expert witness in the case, you're doing your best to be objective and fair in your testimony. Is that fair to say?
A. Would you give me the page, counsel?
MR. RANDLES: 1734.
THE COURT: Would you approach after the answer.
THE WITNESS: I am trying to be, yes.
(Sidebar conference between Court and counsel, off the record.)

BY MR. RANDLES:
Q. And in reaching some of the opinions that you have given this jury, you told the jury on direct examination that you reviewed certain Philip Morris documents in preparation for your testimony here today; is that correct?
A. That's correct.
Q. And how many Philip Morris documents did you review prior to, in connection to your testimony and rendering your opinions in this courtroom?
A. Gee, I don't have an actual count. My recollection is that it was a stack of documents that was about six feet high or so. There probably were multiple hundreds, maybe a thousand.
Q. Of Philip Morris documents?
A. I don't know which were Philip Morris and which -- I don't keep a count as to which were Philip Morris, which were R.J. Reynolds, which were the other tobacco companies.
Q. I represent Philip Morris, so my question, sir, can you tell me approximately how many Philip Morris documents you reviewed prior to giving your opinion to the jury here.
A. I can't separate those documents into

Philip Morris and non-Philip Morris documents. I do know that I reviewed a substantial number of Philip Morris documents, but I can't tell you out of that large number what percentage was Philip Morris.

Q. Can you give me an estimate?

A. I can give you an estimate, but it would have no basis in fact, unfortunately.

Q. Where did you receive the documents from?

A. From.

Q. Let me finish. Who gave you the Philip Morris documents that you reviewed in your testimony here?

A. I received them from a variety of different sources. Some of them were from attorneys in various litigations, some of them I derived myself on the Internet. They have them made available on the Internet, and I was able to examine those collections and download documents that I thought were relevant.

And I've also had documents sent to me by others in the public health community, because they contained information that they thought would be useful to me in my research, and also in other areas or that were just interested.

Q. Just so I know, what time span did the Philip Morris documents cover that you reviewed?
A. I believe I reviewed Philip Morris documents that began either in the late '50s or early '60s.
Q. Running until when?
A. Running to recent time, but I don't know the last date of the Philip Morris document that I looked at.
Q. Now, in looking at those Philip Morris documents, did you attempt to interview or talk with any of the Philip Morris employees who prepared those documents?
A. No, I did not.
Q. Did you believe it might enable you to be more accurate and fair in your testimony as an expert witness, if you talked to the Philip Morris people who prepared those documents before you rendered your opinions?
A. It did not occur to me that it was a possible option that I might have available to exercise. So I had made the assumption that Philip Morris would not allow its people to talk to me; and, therefore, never addressed the issue in my mind whether or not that would help.

Q. So at least you haven't talked to anyone from Philip Morris about the documents?
A. Not to my knowledge, no.
Q. You would remember if you did, wouldn't you?
A. I am not always sure who is employed by Philip Morris at various national meetings.
Q. You have no recollection of it?
A. I have no recollection of it, no.
Q. So there was some selection process that took place; is that correct?
A. That's correct.
Q. And one group of the selection process were lawyers; is that correct?
A. That's correct.
Q. That selected those documents?
A. That's correct, some of them were sent to me by lawyers.
Q. Some of them were lawyers that represent the state in this case. Is that fair to say?
A. Yes.
Q. And you received documents from the lawyers for the State. That's one source, you said?
A. That's correct.

Q. Did you say you received documents from lawyers in other states?
A. Yes.
Q. That you relied on in this case?
A. Yes.
Q. And the third location is the Internet?
A. Yes, my own search of the literature on the Internet, and actually that has been published on the documents that have become available.
MR. RANDLES: That concludes our reading, Your Honor.
THE COURT: Jurors, go ahead and stretch while we get organized for the next piece.
Thank you, Mr. Worbroch.
MR. THOMAS: Could we have a moment?
THE COURT: Oh, not with me? You mean with yourselves? How long a moment?
MR. THOMAS: A couple minutes.
THE COURT: If it is two, the jury will stay. If it's longer than two, I need to know that. Your time keeping is at issue.
(Pause in proceedings.)
(Sidebar conference between Court and counsel, off the record.)

THE COURT: Well, jurors, now that you're all back, I am going to adjourn you for the evening, and ask you to be back ready to go at 9 o'clock. Thank you for your attention and hard work. Enjoy the daylight and sunshine. See you tomorrow.

(Whereupon, the following proceedings were held in open court, out of the presence of the jury at 4:25 p.m.:)

THE COURT: So let me summarize for the record what I understand the plan is at this point. The plaintiff has two witnesses remaining and is expected to rest by noon.

MR. GAYLORD: I think so, Your Honor.

THE COURT: And then what we'll do is excuse the jury for the day when the plaintiff rests. We'll take up the defendant's motions in the afternoon, and then the hope is that the defense will be ready with a full day of testimony for Friday.

Mr. Thomas?

MR. THOMAS: I think that Mr. Tauman has worked out with the defense that they will be

doing the same designation and cross-designation procedure that we've done for the plaintiff's deposition readings; is that correct?

MR. RANDLES: That's right, except we won't provide very many on Sunday morning.

MR. THOMAS: I'm sure you'll do the best you can do.

Secondly, in regard to witnesses and witness order, do we have a procedure that is going to be followed in terms of us being able to rely on your witness list to provide us with your witness order?

MR. COFER: I'll tell you this, our first witness will be Glenn May. We're having to do some changes because you guys -- we're starting earlier than we thought. It looks like we will start the case on Monday with the first two witnesses listed in our list.

MR. THOMAS: So Glenn May will be first.

MR. COFER: Right. It looks like we'll with Brad Scott on Monday, then we'll have to get back to you with respect to the rest of them.

THE COURT: It is fair, Mr. Thomas, to assume that you'll have a least a day's notice

as they had for your case, and as we get further down the defense case, you night get more than a day, like they have.

MR. THOMAS: I appreciate that, thank you.

THE COURT: And if you think you might do a reading on Friday, so Mr. Tauman needs to be aware of that.

MR. TAUMAN: I believe that we were served designations earlier today. That's in process.

THE COURT: Is there anything else we can do for the record?

MR. GAYLORD: There is a motion that we need to make as I understand the rules preliminary to Dr. Bassett's testimony.

THE COURT: All right. Let's make it.

MR. GAYLORD: Which is our motion to -- I'll make it right now, if that's all right. My only hesitancy is that our legal lawyer isn't here, but I think I understand what we're talking about.

THE COURT: You know, you're getting way to dependent on these others lawyers.

MR. GAYLORD: It is such a luxury, it's

hard not to.

THE COURT: But I have had a feeling, Mr. Gaylord, that you made this motion before in other cases. You probably know what you need to do, and if the response is so devastating that you need reliance is on your co-counsel, I'll give you a chance to call him.

MR. DUMAS: You can count on that, Your Honor.

MR. COFER: No, I'm not going to argue it.

MR. GAYLORD: Our motion is simply that we believe we have established a case for punitive damages to submit that issue to the jury and to support going into the issues of the economic results of the conduct and the net worth of the company, et cetera, through Dr. Bassett's testimony, the economist, tomorrow.

THE COURT: Am I right that the standard by which I consider that motion is to view the evidence in the light most favorable to the plaintiff, and then to consider when under the statutes a prima facie case of punitive damages has been made.

MR. GAYLORD: That is correct, I believe. I will candidly say I think there is an issue that's been left dangling in several cases about whether or not you are supposed to ask the question with the burden of proof, clear and convincing, incorporated in the question or not.

There are footnotes in some of the opinions that say things about whether that has even been raised before, but I think it will not matter. I believe we have suffer evidence to establish a prima facie case for punitive damages under any standard.

THE COURT: Let me read from ORS 18.537 (1), so that the standard that I think I'm supposed to apply is before you and you can confirm that. That statutes reads, "Punitive damages are not recoverable in a civil action unless it is proven by clear and convincing evidence that the party against whom punitive damages are sought has acted with malice, or has shown a reckless and outrageous indifference to a highly unreasonable risk of harm, and has acted with a conscious indifference to the health, safety and welfare of others." That's the standard plaintiff asserts.

MR. GAYLORD: That is the standard. I think there is a similar recitation in ORS 30.9 something, 905 -- I don't remember exactly which section it is, but it is specific to product liability. I don't believe there is a discernible difference, even if there are different words in the standards.

THE COURT: ORS 30.925 is captioned, "Punitive damages." It reads, "In a product liability civil action, punitive damages shall not be recoverable except as provided in ORS 18.537 (1) of which I just read.

Subsection (2) of ORS 30.925 reads, "Punitive damages, if any, shall be determined and awarded based upon the following criteria: The likelihood at the time that serious harm would arise from the defendant's misconduct; the degree of the defendant's awareness of that likelihood; the profitability of the defendant's misconduct; the duration of the misconduct in any concealment of it; the attitude and conduct of the defendant upon discovery of the misconduct; the financial condition of the defendant; and the total deterrent effect of other punishment imposed upon the defendant as a

result of the misconduct, including but not limited to punitive damage awards to persons in situations similar to the claimants, and the severity of the criminal penalties to which the defendant has been or may be subjected."

And then there is a following statute, that says when the manufacturer of a drug is not liable, but I don't think that applies. So I think we've got all the statutes before us. Who is responding?

MR. DUMAS: Your Honor, for the defendant, we do not believe that the record as it currently exists meets the standard. Number one, as the Court just indicated, the standard is clear and convincing evidence. Now, the Oregon cases are a little fuzzy on exactly what that means, but there is pretty clear authority that whatever that standard is, it is something more than preponderance of the evidence, and something less than beyond a reasonable doubt.

So however you want to quantify it, it's a high standard, so I believe the Court has to inquire a little bit deeper and with more vigor than in a traditional civil case when you are looking at the preponderance of the evidence.

Second of all, the "Age Robins" (ph) case makes it very clear that the bad conduct has to have a causal link to the defendant's injury.

THE COURT: The plaintiff's injury .

MR. DUMAS: Yes, excuse me, to the plaintiff's injury.

Now, we heard, viewing the evidence in the light most favorable to plaintiff, we certainly heard some evidence that a reasonable fact finder can interpret to be bad conduct. For purposes of this motion, that can't be argued.

I think there is a very legitimate question whether any of the bad stuff we heard about in this trial can be reasonably linked to Jesse Williams' injury. We heard about some ammonia. We heard about some test results that were shredded.

We heard about some -- whether there is a conflict or not in the level of the state of the art of the science at various points in time. I question seriously whether if you look at that bad conduct can we say by clear and convincing evidence that had that research data not been allegedly shredded, Jesse Williams' injury would

not have occurred.

And I would ask the Court to think about this, perhaps over the evening, and sift through the evidence and decide whether plaintiff has met their burden of proof by clear and convincing evidence that the bad conduct is causally linked to plaintiff's injury.

Third, I am very troubled by the nature of this record as it exists with regard to the statute of ultimate repose. I do not believe the statute of ultimate repose can be disregarded in an analysis involving punitive damages.

If the statute of ultimate repose is interpreted to mean that all of defendant's alleged bad conduct from 1940 to 1988, can be considered in allowing the jury to award quasi-criminal punishment on my client, then I believe the Court has, in effect, gutted the statute of ultimate repose.

In other words, I do not believe it would be appropriate for the Court to allow this fact finder to consider imposing punitive damages on conduct that occurred for which there cannot be a claim for relief under products liability law.

There cannot be a claim for relief under products liability law for pre-September 1, 1988 cigarettes.

Yet how, on the other hand, can we say there is a claim to impose quasi-criminal punitive damages awards for conduct that occurred prior to September 1, 1988. If that analysis is correct, I submit, Your Honor, there has been nothing or virtually nothing in this record to support the imposition of punitive damages for my client's alleged bad conduct after September 1, 1988, because there has been a dearth of evidence on that. Most of this bad stuff occurred way back when. Thank you.

MR. GAYLORD: Your Honor, I don't want to belabor this, but I think there are three or four particular points I think I want to have be in the record and that I think are applicable to the decision you need to make.

Andor (ph) vs. United Airlines, I am doing this without authorities that I can cite, other than by name. I can't give the case citation, but Andor vs. United Airlines, is the case about the DC 809 that went down in Northeast Portland, and it has stood since it

was decided as sort of the two sides of the coin and standard setter for what is and what is not a punitive damages case in Oregon.

And granted the statutory language was modified and boosted up a little bit after that case, but if I had the case book in front of me, I think I could show you where the descriptions of what the plaintiff needs to prove for punitive damages really are the same in that case as the ones that you read from the statute now.

All of the adverbs and adjectives notwithstanding, it is essentially the same standard. And that case gives us an interesting example of one thing that is and one thing that is not sufficient for punitive damages.

In as short a form as I can, the captain's decision to go around again and misreading of the fuel tank was ordinary negligence, not premeditated, so to speak, not over any length of time and certainly not in disregard to the passenger safety, because it would have been his own safety.

This is the analysis that the Court gave. That was grounds for liability, but not punitive

liability.

The decision of United Airlines over a period of six months to use bungy cords to prop up the front wheel, and not fix the problem of getting false indicators on the dashboard of the airplane to tell you whether or not the front prop was down, was punitive damages liability, because it was long term, and profit or cost or expense motives behind it, but the jury didn't find liability on that point, so the punitive damages that was awarded was not linked to the conduct that would have supported punitive damages.

That's the kind of beacon for what we need to look at for punitive damages. The message is long-term conduct, profit-oriented long-term conduct that is in disregard of the health, safety and welfare of people, et cetera of people, including plaintiff, is what supports punitive damages.

That is here in great abundance, and that's what the case is about on that subject, and it doesn't make any difference what particular string of adjectives and adverbs one puts together, we get there at least to the

level of a jury question.

Another way to say it is the motion to amend in order to plead punitive damages that we had to use in our present process to get it on board as a pleading matter, represented to the Court that we were going to put on certain kinds of evidence. We have done so.

We kept faith with those representations and that's where we are. With respect to Mr. Dumas' concern about the ultimate repose issue and the time duration of the conduct we've been talking about, I can cite to you two cases where that issue is not addressed in so many words, but where that issue is all over the cases, and they are published opinions of our Courts.

Oberg vs. Honda, with which I have some familiarity, is a case in which the conduct began in 1970, with the bad design of the three-wheel Honda and the failure to test it for all the relevant safety factors, that conduct continued from 1970 to 1985, when the Honda 350 involved in the accident was purchased, and a couple months later the accident occurred.

The Court, in analyzing the punitive

damages issue twice in our state supreme court and various other places in between, used those facts and analyzed those facts as the relevant ones and recited those facts from 1970 to 1985, as the grounds for the punitive damages. Product liability case, ultimate repose.

Lakin vs. Synco (ph) in the Court of Appeals opinion, it's the only one published so far involves a nail gun that was designed, that the string of events starts in 1966 when the patents are filed that disclose exactly the safety issue that took its toll on Mr. Lakin when the nail went into his brain because the gun double fired.

The patent in 1966 said, "If we do this design that we're about to do, it result in double firing, and result bum firing," the two aspects of the defect that caused the accident. The accident was in 1990, from a nail gun purchased in 1989 or '90.

And the Court of Appeals opinion recites that whole string of the facts and history in support of the punitive damages finding. It's a product liability case in Oregon subject to the ultimate repose.

THE COURT: Do you know whether in Oberg or in Lakin it was argued that the culpable conduct had to happen within the 10 years.

MR. GAYLORD: I don't believe that issue is addressed explicitly in the appellate court in either of those cases. In the back of my memory, I think these discussions took place before the cases went to Court, in either or both of them. I think particularly in Oberg, but I don't want to over represent what I can tell you about that. I would have to go back and look at the record.

THE COURT: My memory is consistent with your recitation that there is discussion of this culpable conduct that is old culpable conduct, and I don't recall it being tied to the particular argument, so I think I need to give separate consideration to the argument here.

There is one other case with which I'm familiar in which punitives were based upon old conduct, and that would be the Purcell case, an asbestos case where Owens Corning conduct that was older than a recent snapshot in time was a basis for punitive damages, and affirmed at the Court of Appeals.

But I don't recall the time limitation in Purcell was a ten-year contractor's statute of ultimate repose which the learned Trial Court ruled didn't apply and the Court of Appeals affirmed, that one is pending Supreme Court review, too, but I don't think it was argued in that case that the punitive conduct had to occur within the time period to which the statute of limitations might have applied, had the statute of limitations applied.

MR. DUMAS: There's also the exception in the statute for the non-applicability of ultimate repose for asbestos cases.

THE COURT: Right. That is a unique situation.

MR. DUMAS: I would -- if the Court is going to take my suggestion in mulling this over, I would refer the Court to the Friedman (ph) case. I think I do need to disclose that to the Court, it's not a product liability case, it is a securities fraud case, 922 F Supp. 377, the DC opinion, that which does have some more explicit discussion than Oberg on the issue of considering pre-repose conduct.

THE COURT: With what result?

MR. DUMAS: That the evidence was allowed in.

THE COURT: I will tell you that it's my believe and I'm inviting some principled analysis to the contrary, it's my belief that the ultimate repose statute requires the injury to have occurred within the time period preceding the filing of the action.

We have evidence in the case which in the light most favorable to the plaintiff establishes in the opinion of two witnesses that conduct occurring within that eight year period preceding the filing of the action was a substantial factor in the cause of Mr. Williams' cancer, that conduct being his smoking in the eight year preceding.

I think that's what the statute requires, that there be injury within eight years preceding. It would be an anomaly -- it would be an anomaly for punitive damage purposes, for there to be a long history of reckless and outrageous indifference to a highly unreasonable risk of harm, and a long history of conscious indifference to health, safety and welfare which results in an injury within eight years

preceding the filing of an action to say that that immunizes that conduct from punitive damages.

That doesn't make sense from a statutory interpretation point of view either.

MR. DUMAS: It would submit it makes equally no sense if the bad conduct occurs ten years ago resulting in the manufacture of a product that's ten years old for which the plaintiff cannot have a claim for relief.

THE COURT: But the point is the Legislature drew the line. And in this case, the plaintiff has presented evidence that suggests, if believed, that smoking within the protected eight-year period was a substantial factor in causing Mr. Williams' death, so the Legislature sets the policy, plaintiff's evidence in the light most favorable to the plaintiff meets that standard in terms of causing injury within the time period.

The punitive conduct which occurred, I would say in the light most favorable to the plaintiff both before and during the eight-year period, because I think a jury could conclude from the evidence that, quote, to this day there

is still a denial about a causal connection, that brings the punitive attitude current, so to speak. It is a ratification, if you will.

But I don't think I need to reach that, and I don't want to muddy the record to suggest that I am only considering evidence in an eight-year period. It's my belief that what plaintiff has to show is injury caused within eight years preceding the filing, and plaintiff has done that if one accepts only the evidence favorable to the plaintiff on that point, as I am required to do for this kind of motion.

Nothing in the statutory scheme for punitive damages suggests that the conduct giving rise to punitive damages has to occur within that time period, so long as the injury is connected to it. I agree with you that the law requires that the bad conduct must have a causal link to the injury.

In the light most favorable to the plaintiff, a jury could conclude that there was a reckless and outrageous indifference to a highly unreasonable risk of harm, specifically the risk associated -- the adverse public health risks associated with smoking, and what there

was a conscious indifference to the health, safety and welfare of the public in the manner in which the defendant chose to deal with that risk in terms of the marketing of its product.

It depends upon how the trier of fact looks at the evidence that has been submitted so far on that theory. A trier of fact rationally could find that evidence to be clear and convincing, so I am not troubled by the difference between a mere preponderance, which is to say a 51 percent likelihood or something that is more substantial, that's required by the statute to support a finding -- to support a prima facie case from which the jury would have the discretionary choice to make a finding that punitive damages are appropriate.

So I am assuming that under Oregon law, old conduct that's bad enough which, in fact, causes harm within the eight-year periods preceding the filing of the action, which is itself, when believed, clear and convincing evidence is a sufficient standard against which to measure the plaintiff's case, and having done that, I conclude plaintiff's case meets the standard.

Whether the jury believes everything that has been presented, and even if they do, whether they conclude in the exercise of their discretion and it's solely their discretion, that punitive damages ought to be awarded, are bridges yet to cross, but I am going to allow plaintiffs to proceed with the financial work evidence if that's the point of this motion.

MR. DUMAS: Your Honor, I understand the Court's ruling -- I don't agree with it, but I certainly understand it. Just so that we don't have any problem with tomorrow's testimony, I want just to alert the Court and counsel that it's obviously our position that we're talking only here of the financial information regarding Philip Morris Incorporated.

THE COURT: Yes. This is an action for punitive damages against Philip Morris, not the tobacco industry.

MR. DUMAS: No, that's not the distinction I was making, Your Honor, excuse me.

THE COURT: I am missing it.

MR. DUMAS: There are several different corporate entities that have the name Philip Morris in it. The entity that owns and operates

the domestic tobacco industry which manufactures and sells and derives a profit --

THE COURT: Whoever the defendant in this case is, it's that defendant's net worth which may the subject of testimony.

MR. DUMAS: Thank you.

THE COURT: And only that defendant.

MR. DUMAS: Thank you.

THE COURT: Kraft Foods doesn't count, does it?

MR. DUMAS: No, it doesn't.

THE COURT: What else can we do?

MR. THOMAS: One other matter, Judge. The defendants have cited 29 witnesses in their witness list, and of those there are, I believe, if I count correctly, eight family members. At the time that the plaintiff disclosed their witness list to the defendant, the plaintiff disclosed which of the witnesses on the list would be called live, and which would be called through deposition. And I would like to know if we would get the same from the defendants.

MR. COFER: I don't think we're going to call any of them live. We're not planning on calling any of them live, the family members.

We're planning on reading depositions. If for some reason that changes, we'll give ample notice.

MR. THOMAS: And I assume that no attempt is going to be made to do depositions for any of the other non-family members.

THE COURT: I thought, Mr. Randles, you told me one of the defense witnesses might be a reading. Was that a family member?

MR. RANDLES: That is a family member, Your Honor.

THE COURT: What else for the record?

Okay. 9 o'clock for you all. We have 8:30 probation matters.

(Court adjourned, Afternoon Session, 3-10-99, at 4:48 p.m.)

REPORTER'S CERTIFICATE

I, Katie Bradford, Official Reporter of the Circuit Court of the State of Oregon, Fourth Judicial District, certify that I reported in stenotype the oral proceedings had upon the hearing of the above-entitled cause before the HONORABLE ANNA J. BROWN, Circuit Judge, on March 10, 1999;

That I have subsequently caused my stenotype notes, so taken, to be reduced to computer-aided transcription under my direction; and that the foregoing transcript, Pages 1 through 158, both inclusive, constitutes a full, true and accurate record of said proceedings, so reported by me in stenotype as aforesaid.

Witness my hand and CSR Seal at Portland, Oregon, this 10th day of March, 1999.

_____

Katie Bradford, CSR 90-0148
Official Court Reporter

I certify this original/duplicate original is valid only if it bears my red colored CSR Seal. Katie Bradford

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